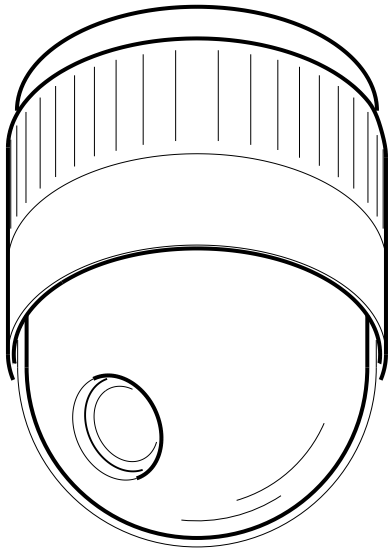
JVC®

DOME TYPE CAMERA

TK-C655

INSTRUCTIONS



LWT0050

IMPORTANT SAFEGUARDS

1. Read all of these instructions.
2. Save these instructions for later use.
3. All warnings on the product and in the operating instructions should be adhered to.
4. Unplug this appliance system from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.
6. Do not use this appliance near water – for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
7. Do not place this appliance on an unstable cart, stand, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance.
   Use only with a cart or stand recommended by the manufacturer, or sold with the appliance. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.
   An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING
(symbol provided by RETAC)

S3126A

8. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the appliance and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the appliance on a bed, sofa, rug, or other similar surface. This appliance should never be placed near or over a radiator or heat register. This appliance should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. This appliance should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company. For appliance designed to operate from battery power, refer to the operating instructions.
10. This appliance system is equipped with a 3-wire grounding type plug (a plug having a third (grounding) pin). This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding plug.
11. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it form the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
12. Do not allow anything to rest on the power cord. Do not locate this appliance where the cord will be abused by persons walking on it.
13. Follow all warnings and instructions marked on the appliance.
14. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
15. Never push objects of any kind into this appliance through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the appliance.
16. Do not attempt to service this appliance yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17. Unplug this appliance from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled into the appliance.
    c. If the appliance has been exposed to rain or water.
    d. If the appliance does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the appliance to normal operation.
    e. If the appliance has been dropped or the cabinet has been damaged.
    f. When the appliance exhibits a distinct change in performance – this indicates a need for service.
18. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
19. Upon completion of any service or repairs to this appliance, ask the service technician to perform routine safety checks to determine that the appliance is in safe operating condition.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

AVERTISSEMENT:
POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A L'HUMIDITE OU A LA PLUIE.

Thank you for purchasing this product.
(These instructions are for TK-C655E)
Before beginning to operate this unit, please read the instruction manual carefully in order to make sure that the best possible performance is obtained.

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Introduction

Features

■ DSP with a wide dynamic range
Even objects differing greatly in brightness can be monitored clearly.

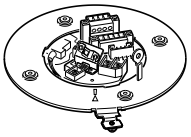
■ Private masking facility
When the camera target area needs to be hidden, the camera can be set accordingly to mask it.

■ Optical zoom lens
Detailed surveillance can be performed with the approx. 25 times optical zoom lens.

■ High-speed pan/tilt table
The high-speed rotating table with a horizontal panning speed of 300°/sec. and a vertical tilting speed of 180°/sec. makes it possible to get to a preset position very quickly.

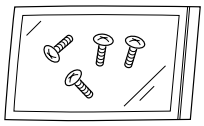
Provided Accessories

Instructions


Ceiling Mount

Screw
(M3 × 12 mm)
For cable plate

Cable plate


Screws (M 4 × 12 mm)
(For attaching the Ceiling Mount to the Flush Mounted Ceiling Bracket.)

Safety Precautions

WARNING

- Install the unit on a strong and stable surface.
  This unit has been designed to rotate at high speed. Due to its weight (about 2.4 kg) and to the vibrations whit it may be subjected, the camera must be mounted to sturdy and stable material. If the ceiling material lacks strength, for example it is made of a decorative laminated material or plasterboard, then the mount should be reinforced using materials such as veneered plywood. If such reinforcement is inadequate images may be unstable due to vibration or, in the worst case, the camera may fall and cause a serious accident should there be anyone below it.
- For installation, use the provided Ceiling Mount and the optional flush mounted ceiling bracket, which is sold separately.
  When installing this device the provided Ceiling Mount and the optional flush mounted ceiling bracket, which is sold separately should be used. Also be sure to connect the drop prevention wire and tighten all screws and nuts firmly.
- Power the unit with the rated power voltage.
  The power rating for this unit is 24 V AC, 50 Hz/60 Hz. If a power above this rating is supplied, a malfunction will occur or, in the worst case, smoke or fire may be produced.
- This unit offers a certain degree of protection against any damage either to itself or to its connection cable that might result from indirect lightning strikes, but it is not capable of preventing all damage caused by lightning strikes, for example it is not protected against a direct strike. If lightning damage can be expected in the place where the unit is installed, be sure to take countermeasures by adding an arrester to the connection cable, etc.

CAUTION

- Installation of this unit requires special skills. Please be sure to consult JVC authorized dealer about installation procedures.
  If the mounting screws or nuts are not tightened sufficiently, the camera may fall from its installation location. Be sure to tighten the mounting nuts firmly to prevent this happening.
- Inspect the unit periodically.
  Check periodically for any deterioration of the mount sections or loosening of screws due to vibration and ensure that there is no likelihood of the unit dropping.

Precautions for Correct Operation

Note on consumable parts

The following parts are consumable and should be replaced after a certain number of hours or a count of operations. The service lives given below are only typical values. They may vary depending on the operating environment and conditions.
Note that the replacement of consumable parts is chargeable even when they are replaced before the termination of the warranty period.

- Zoom lens assembly
  Zooming operation : 2 million times
  Focusing operation : 4 million times
- Slip rings : 5 million operations
- Cooling fan : 30,000 hours approx.

Note on auto focusing

Although this unit incorporates a one-push auto-focusing system and EASY AF functions, auto-focusing may sometimes be impossible depending on the object and camera setup. In this case, adjust the focusing manually.

Objects and images with which auto focusing may be difficult:

- When the image brightness is extremely high.
- When the image brightness is extremely low.
- When the image brightness varies continuously (for example when the object is a flashing light).
- When the image contrast (difference between bright and dark) is very poor.
- When the image does not contain a vertical contour component.
- When vertical stripe patterns recur on the screen.

Camera setups with which auto focusing may be difficult:

- When the AGC is activated and the image is coarse.
- When SENSE UP is activated and the image contains only little motion.

- To save energy, turn the system power off whenever it is not in use.
- This camera has been designed for indoor use. It cannot be used outdoors.
- This camera has been designed to be hung from a ceiling with its base uppermost. Do not install it in an upside down position on a surface or at an angle, as this may cause a malfunction or a noticeable shortening of its service life.
- Do not install or use the camera in the following locations.
  - In a place exposed to rain or water.
  - In a place containing vapor or oil soot, for example in a kitchen.
  - In a place outside the operating temperature range (-10°C to 50°C).
  - Near a source of strong radio waves or magnetism, radiation or X-rays.
  - In a place where corrosive gasses are generated.
  - In a place subject to vibrations.
  - In a place with excessive dust.
- Insufficient ventilation of the camera may cause a malfunction. Be careful not to block ventilation to the camera.
  This unit radiates heat from the panel surfaces (top panel and side panels). Do not install it in a place where a heat pool may form, such as near a wall.
- Do not install the camera in a place exposed to cold air, for example near to the air outlet of an air conditioner. Otherwise, moisture may become condensed inside the dome cover.
- Do not point the lens at a strong light source, for example the sun, doing so may cause the camera to malfunction.
- The camera incorporates an AGC circuit. As a result, when it is used under low light conditions, the camera gain may increase automatically. This makes the picture appear uneven , however this is not a malfunction
- When equipment that generates strong magnetism such as a transceiver is used near to the unit while the AGC circuit is ON, beat noise, etc may interfere with the picture. If a transceiver or similar equipment is used, keep it at a distance of at least 3 metres away.
- In auto iris mode, when the AGC circuit is ON, varying the iris with the iris control button may not change the picture brightness. This is due to the automatic gain boost by the AGC circuit. In this case, set AGC to OFF or use the manual iris mode.
- In auto iris mode, the iris control button may not function under certain brightness conditions (i.e. when a sufficient amount of light cannot be obtained). In this case, set the iris mode to manual.
- When the camera is used in ATW (Auto White balance) mode, the colours captured by the camera may differ from the actual colours being shot due to the mechanics of the auto-tracking operation within the white balance circuit. However, this is not a malfunction.
- If a very bright object (such as a lamp) is being monitored, the picture may contain vertical lines (smear) above and below the bright object in the picture. This is a normal phenomenon for solid-state image pickup devices (CCD) and is not a malfunction.
- The electronic shutter speed of the camera has been set to 1/50 second at the factory. If the camera is used under a fluorescent light source in an area with a local power frequency of 60 Hz, change the shutter speed to 1/120 second using the remote control unit. (Note that the sensitivity will deteriorate slightly.)
  However, if the ExDR function is ON, the flicker may not disappear.
- When the camera is used to monitor the same position over many hours (e.g. continuously for 24 hours a day) the contact resistance of the panning mechanism may increase. This may cause the picture to be affected by noise interference or the remote control operation becoming unstable. To prevent this happening, once a week, turn the system off and on in order to initialize the camera and to clean the contacts.
- Do not touch the lens on the dome cover directly by hand. Contamination of the cover will lead to deterioration of the picture quality.
- **Since the dome cover is of a semispherical shape, the picture is distorted at the edges of the semisphere. When the camera is pointed for horizontal-direction shooting by tilting, it shoots the edge of the hemisphere, so that the picture may be distorted or out of focus.**
- When an object is located near a light source or contains a large difference in brightness, ghosting may occur. This phenomenon is due to the characteristics of the dome cover and the built-in lens and is not a malfunction.
- Observe the following points when carrying out maintenance of the camera.
  - Turn off the power to all equipment to be used before proceeding.
  - Clean the dome cover using a lens cleaning cloth (or tissue). The dome cover may become stained in a very short period in certain operating environments. If the dome cover lens becomes excessively contaminated, clean it with a lens cleaning cloth (or tissue) moistened with a solution of neutral detergent in water.

■ Zooming

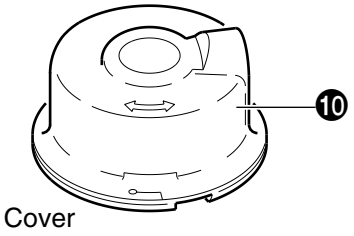
When zooming is stopped near the TELE end during manual operation or by selecting a preset position, focusing may deviate slightly. In addition, the manual zooming operation may not always be smooth.
These phenomena are due to the characteristics of the built-in lens and are not malfunctions.

■ Preset positions

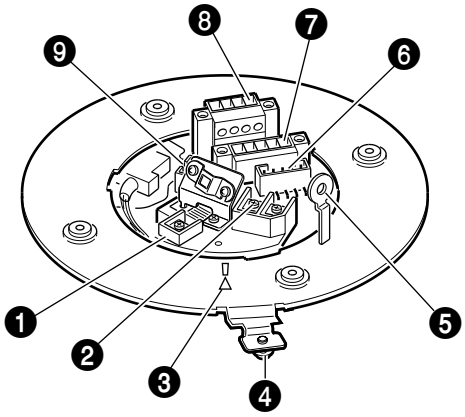
- The zooming position of the camera can be set to a total of 100 preset positions, including the home position.
- The TILT position can be set and operated only between 0° to 90° even when the item “FLIP” is set to DIGITAL. (A TILT position between 91° and 180° cannot be set or operated. The message "INVALID POSITION (TILT) will appear on the screen if a larger TILT position than 90° is set.)

Controls, Connectors and Indicators

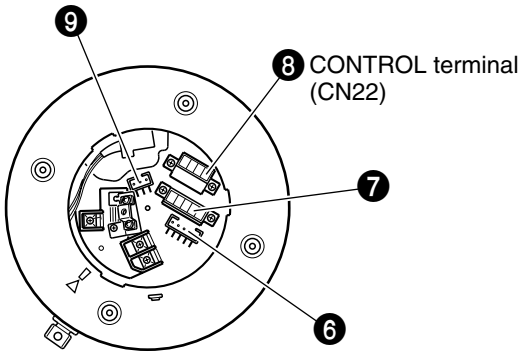
■ Ceiling Mount



Cover



(Connector side)



(Terminal Layout)

❶ [VIDEO OUT] Coaxial Cable Connectors
Output connector of a composite video signal (1 V(p-p)) with an output impedance of 75 Ω, to be connected to a switcher, etc.

❷ [AC ∿ 24V INPUT] Connector
Connect to a 24 V AC power supply.

❸ Cover Position Alignment Mark
When attaching the cover, use this mark to align its final position correctly.

❹ Locking Screw
Tighten this screw to fasten the camera clamping bracket ⑱.

❺ Safety Wire Hole
To prevent the possibility of the entire camera falling down, attach the safety wire between this hole and a secure attaching position in the ceiling.

❻ Alarm Input Terminals (CN26)
This cannot be used.

❼ [ALARM I/O] Input/output Terminals (CN23)
This cannot be used.

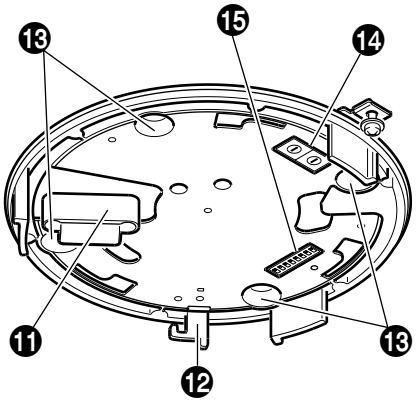
❽ [CONTROL] Terminals (CN22)
Connect to a RM-P2580 remote control unit.

Pin No.	Signal Name	Mark
1	TX +	Ⓐ
2	TX –	Ⓑ
3	RX +	Ⓒ
4	RX –	Ⓓ

❾ Alarm Output Terminals (CN24)
This cannot be used.

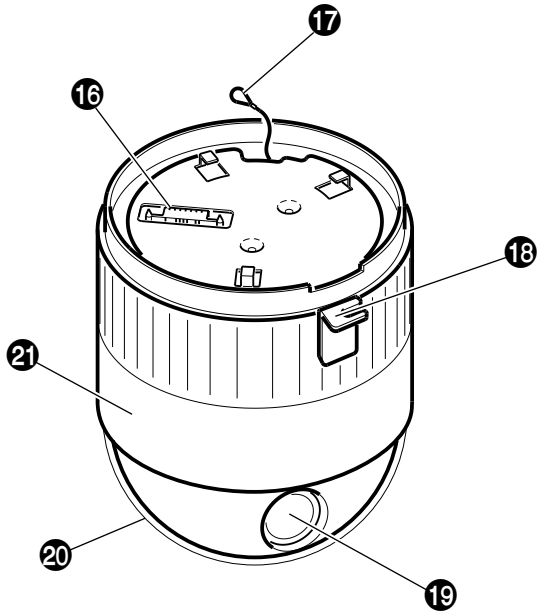
❿ Cover
For protection against dust. Pierce the rubber cap on this cover and pass the cable through the slits.
☞ P. 14

■ Ceiling Mount



(Setting switch side)

■ Camera



⓫ Camera Connector (Female)
Connect to ⓰, the **Male Connector** on the camera.

⓬ Drop Prevention Hook
Attach the Drop Prevention Wire ⓱ to this hook to prevent the camera from falling.

⓭ Clamping Holes (x 4)
Attach the camera to a ceiling or to a Flush Mounted Ceiling Bracket (optionally available) using these holes.

⓮ [MACHINE ID] Switch
When an RS-485 communication system is used, for example when using the camera in a system controlled by an RM-P2580, set the camera IDs individually for each camera.
☞ P. 13

⓯ Setting Switches
Use these to set the PROTOCOL, etc.
☞ P. 12

⓰ Connector (Male)
Connect to ⓫, the **Female Camera Connector** on the Ceiling Mount.

⓱ Drop Prevention Wire
Attach this wire to the Drop Prevention Hook ⓬ on the Ceiling Mount.

⓲ Camera Clamping Bracket
In order to clamp the camera onto the Ceiling Mount, insert and tighten the **Locking Screw** ❹ into this bracket.

⓳ Lens
The lens is not a replaceable item.

⓴ Dome Cover
The dome cover is fragile. Take care when handling it.

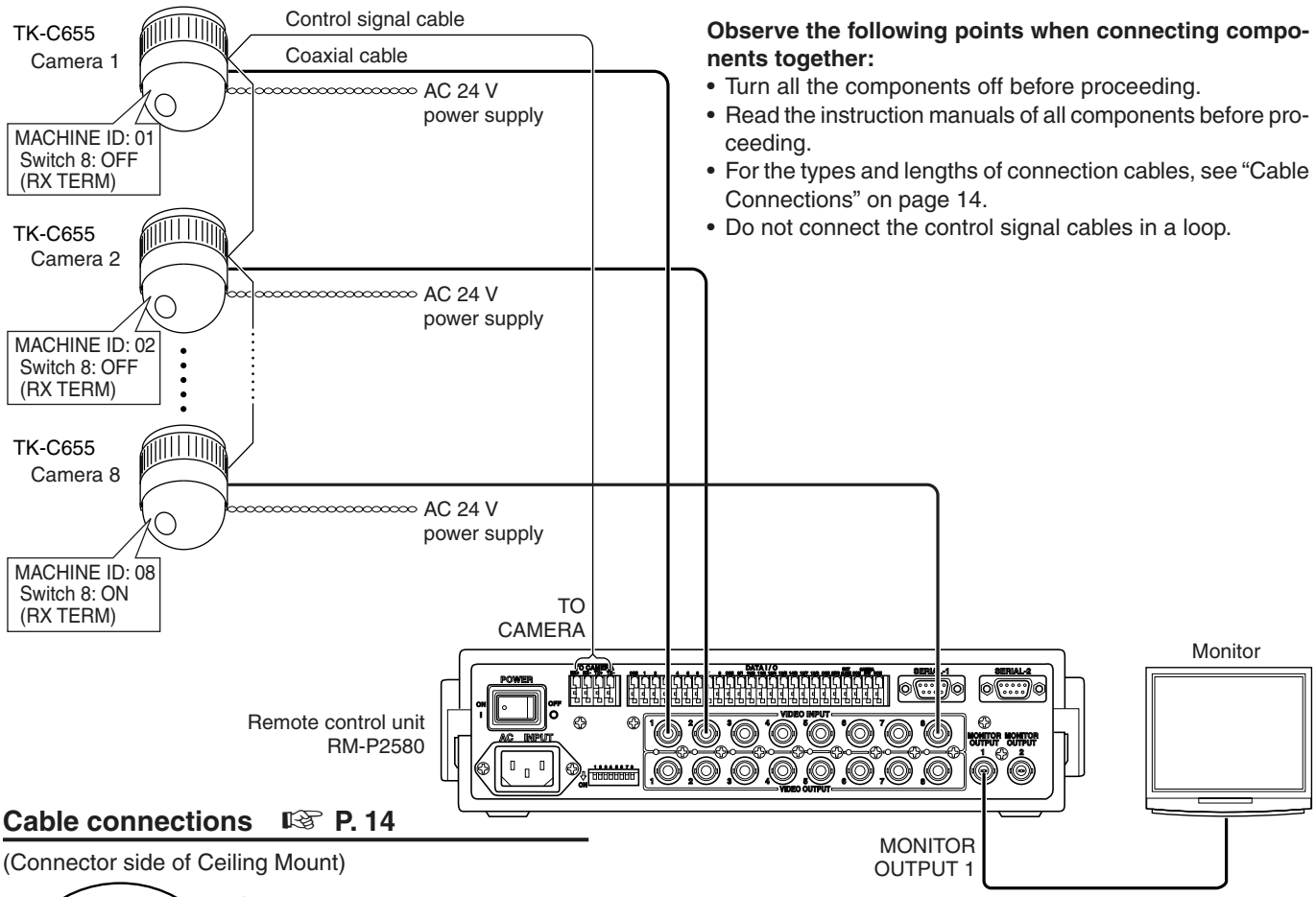
㉑ Camera Body Cover
Do not remove the camera body cover while the camera is installed on a ceiling. Doing so will cause the dome cover to fall down.

Connections & Installation

A Multi-Drop Communication System

■ A system that employs the RM-P2580 as the controller

The following figure shows a system that can accommodate up to eight cameras. (64 positions can be preset per camera.)

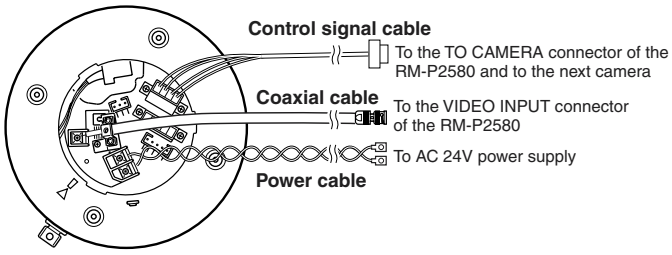


Observe the following points when connecting components together:

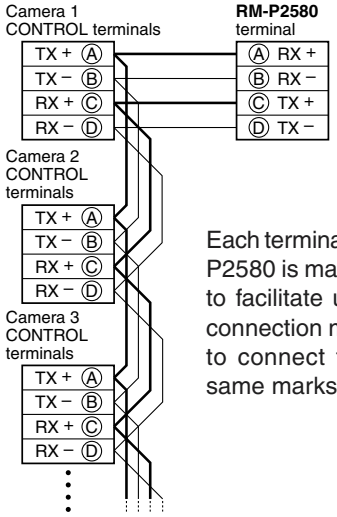
- Turn all the components off before proceeding.
- Read the instruction manuals of all components before proceeding.
- For the types and lengths of connection cables, see “Cable Connections” on page 14.
- Do not connect the control signal cables in a loop.

Cable connections ☞ P. 14

(Connector side of Ceiling Mount)


Control signal cable
To the TO CAMERA connector of the RM-P2580 and to the next camera
Coaxial cable
To the VIDEO INPUT connector of the RM-P2580
To AC 24V power supply
Power cable

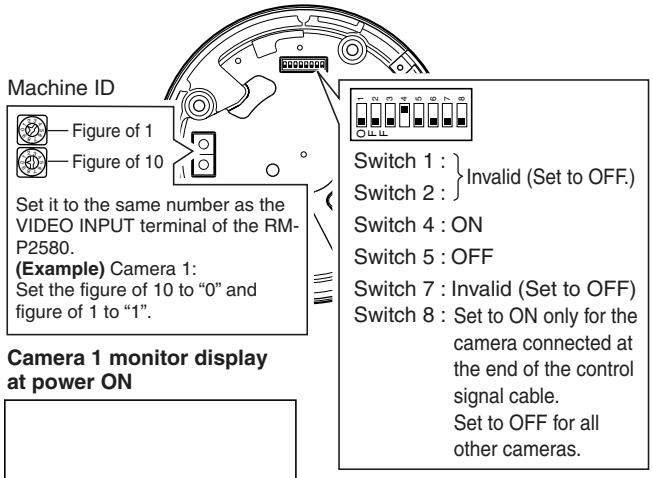
Connection of the control signal cable (A twisted pair cable is recommended.)



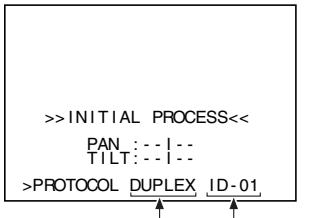
Each terminal on the camera and the RM-P2580 is marked Ⓐ,Ⓑ,Ⓒ or Ⓓ. In order to facilitate understanding and to avoid connection mistakes, it is recommended to connect the terminals carrying the same marks.

Switch settings ☞ P. 12

(Setting switches on the Ceiling Mount: Setting switch side)


Machine ID
Figure of 1
Figure of 10
Set it to the same number as the VIDEO INPUT terminal of the RM-P2580.
(Example) Camera 1:
Set the figure of 10 to “0” and figure of 1 to “1”.
Switch 1 :
Switch 2 :
Invalid (Set to OFF.)
Switch 4 : ON
Switch 5 : OFF
Switch 7 : Invalid (Set to OFF)
Switch 8 : Set to ON only for the camera connected at the end of the control signal cable.
Set to OFF for all other cameras.

Camera 1 monitor display at power ON



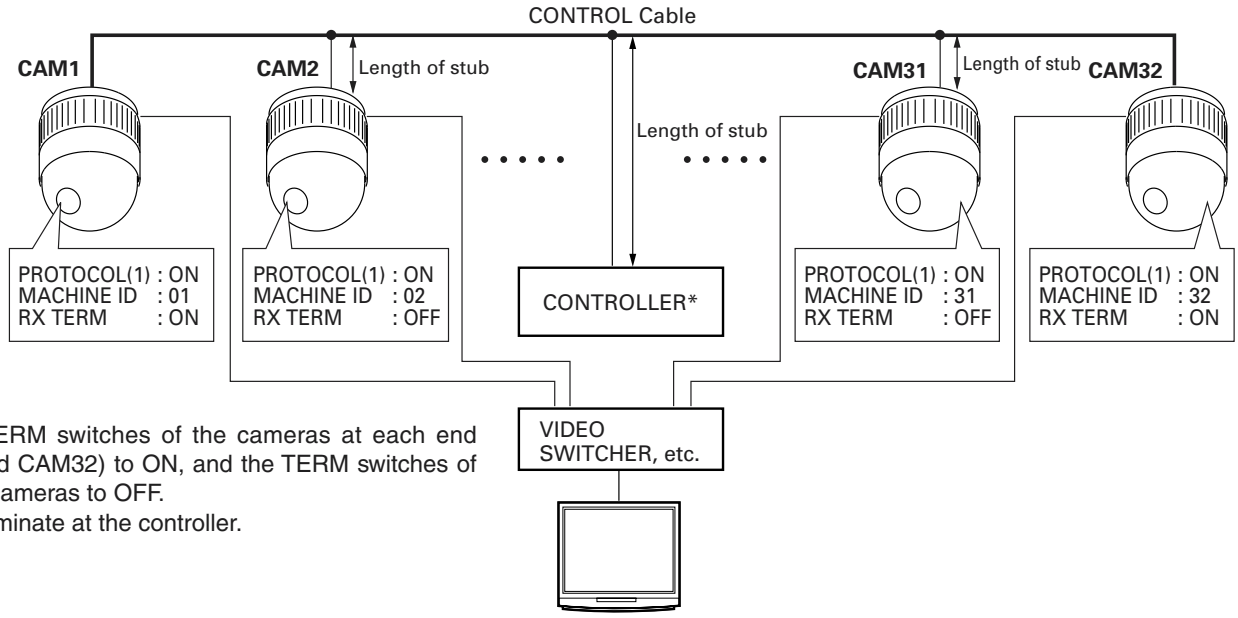
(ID check procedure ☞ P. 13)

■ A system that does not employ the RM-P2580 as the controller

— MEMO

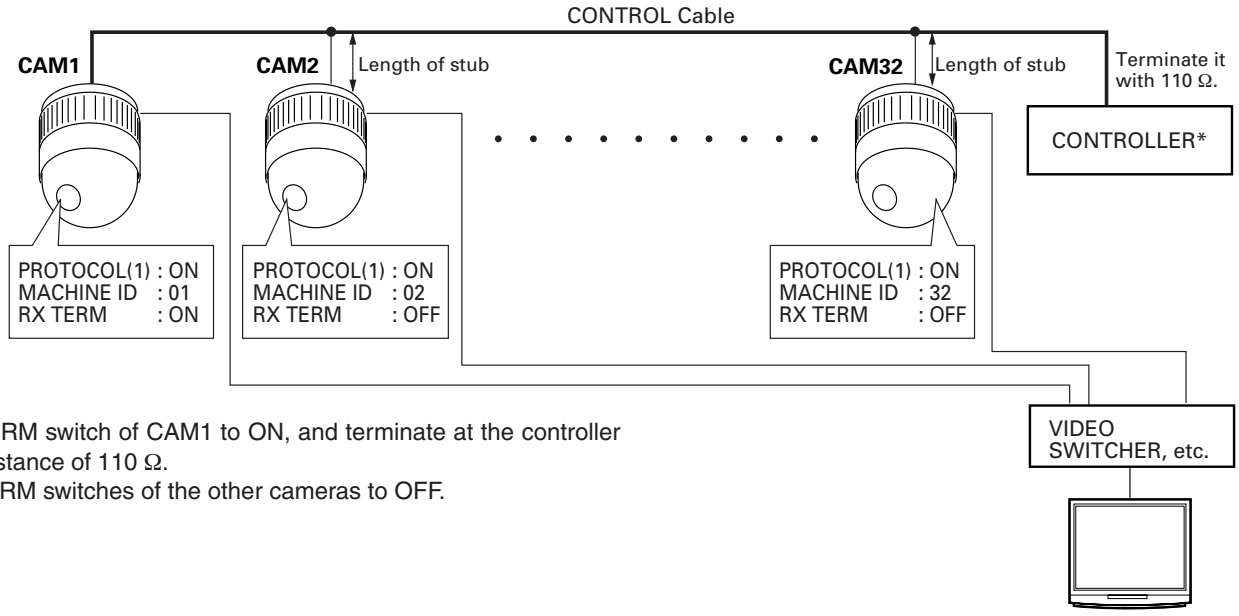
Be sure to terminate the control signal cable at both ends. The cables (length of stub) connecting pieces of non-terminated equipment (cameras or controllers) must be as short as possible. If the length of stub is too long, the precision of the control may suffer.

● When the controller is located in the middle of the system cable. (An AC 24V power source must be supplied to each camera)



- Set the TERM switches of the cameras at each end (CAM1 and CAM32) to ON, and the TERM switches of the other cameras to OFF.
- Do not terminate at the controller.

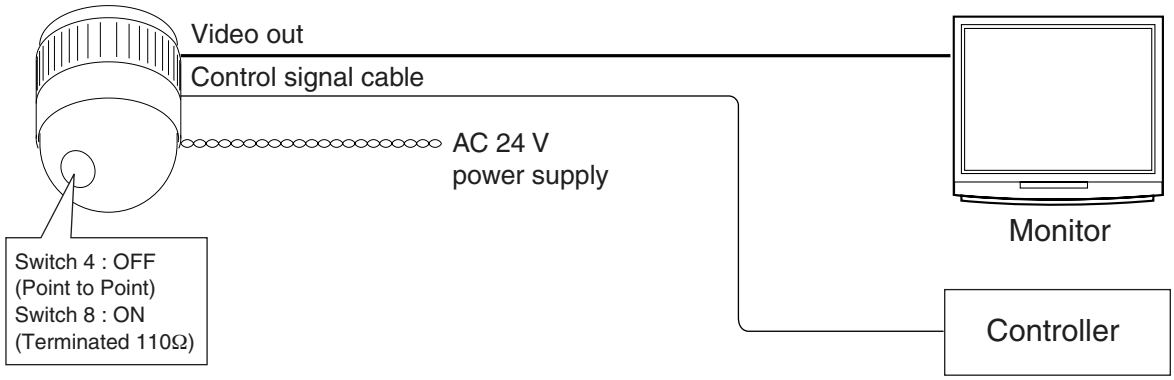
● When the controller is located at the end of the system cable. (An AC 24V power source must be supplied to each camera)



- Set the TERM switch of CAM1 to ON, and terminate at the controller with a resistance of 110 Ω.
  Set the TERM switches of the other cameras to OFF.

Point-to-Point Communication System

The following illustration shows a system in which a remote control unit (or a similar piece of equipment) controls a single camera.

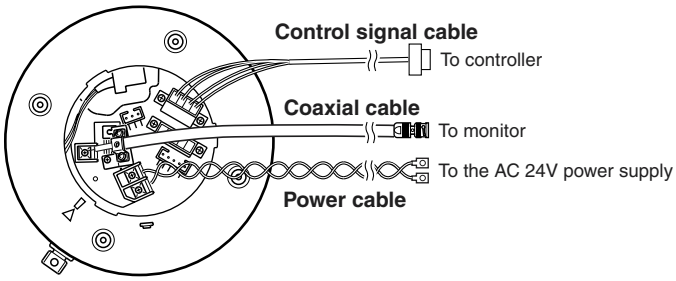


Observe the following points when connecting system components :

- Turn all the components power off before proceeding.
- Read the instruction manuals of each component before above proceeding.

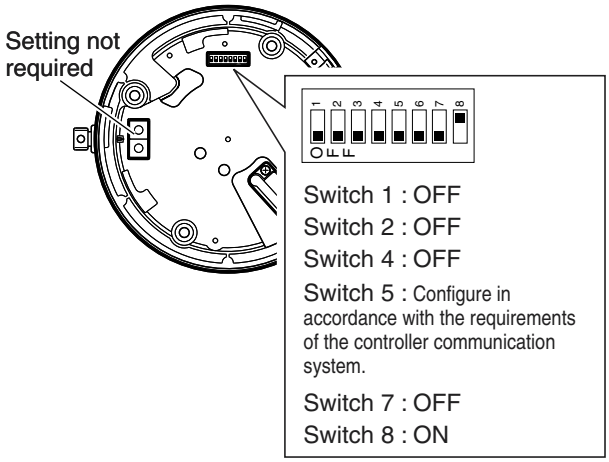
Cable connections ☞ P. 14

(Connector side of the Ceiling Mount)



Switch settings ☞ P. 12

(Setting switches on the Ceiling Mount: Setting switch side)


Setting not
required
1 2 3 4 5 6 7 8
ON
Switch 1 : OFF
Switch 2 : OFF
Switch 4 : OFF
Switch 5 : Configure in accordance with the requirements of the controller communication system.
Switch 7 : OFF
Switch 8 : ON

— MEMO

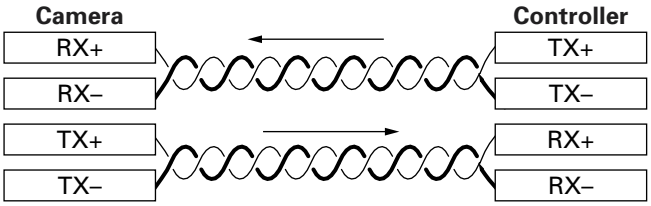
If this camera or the cables connected to this camera are used in places subject to strong electromagnetic waves or other forms of magnetism, for example near a radio or TV transmitter, a power transformer or an electric motor, the picture may suffer from noise and colours may be affected.

In order to operate and control the TK-C655 camera, a separate control unit accessory is required. Please contact JVC authorized dealer or installer for more information about these controllers.

Use twisted-pair cables for the connections.

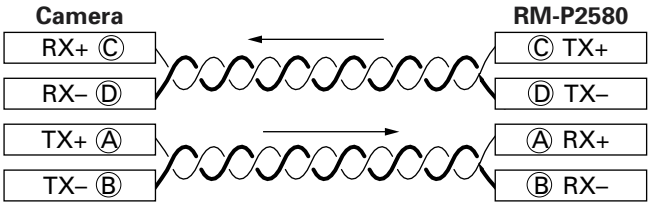
● **Duplex**

When the camera is controlled using the full duplex transmission protocol, set Switch 5 to OFF.



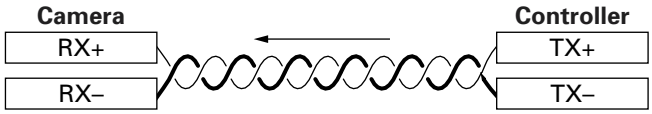
Four wires must be connected.

For example (connection with an RM-P2580)



● **Simplex**

When the camera is controlled using the simplex transmission protocol, set Switch 5 to ON.

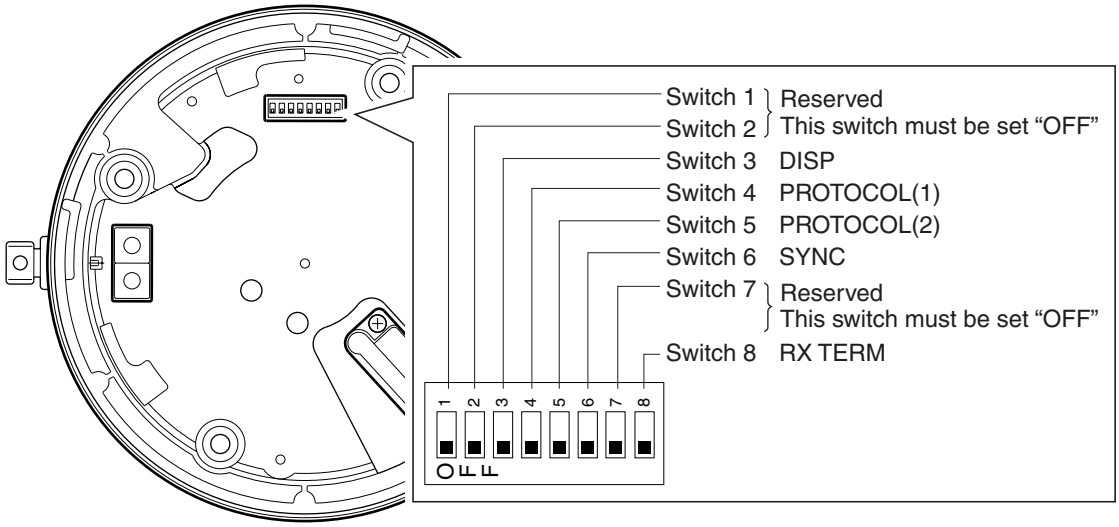


Two wires must be connected.

Switch Settings

Set the switches on the Ceiling Mount prior to installing the camera.
Settings will vary according to the configuration of the system.

■ Setting switches



- **Switches 1, 2**
  These switches must be set to OFF.

- **DISP (Switch 3)**
  This switch selects whether "MANUAL" is displayed in the screen when a remote control unit is being used to move the camera manually to a position other than a preset.

MANUAL	Switch 3
Displayed	
Not displayed	

(Default setting: Displayed)

- **PROTOCOL (1) (Switch 4)**
  Selects whether a single camera or multiple cameras are controlled in a system.
  Set PROTOCOL(1) to Multi drop when connecting multiple cameras in series.

PROTOCOL (1)	Switch 4
Point to point	OFF
Multi drop (when using the RM-P2580)	ON

(Default setting: OFF)

When set to Multi drop, be sure to set the Machine ID of each camera.

- **PROTOCOL (2) (Switch 5)**
  Set this switch according to the communication protocol used when controlling the cameras.

PROTOCOL (2)	Switch 5
Duplex (when using the RM-P2580)	OFF
Simplex	ON

(Default setting: OFF)

- **SYNC (Switch 6)**
  When this switch is set to ON, the vertical sync of the camera becomes locked to the frequency of the AC power line.

SYNC	Switch 6
INT	OFF
LL	ON

(LL mode : 50 Hz area only)

(Default setting: OFF)

- **Switch 7**
  This switch must be set to OFF.

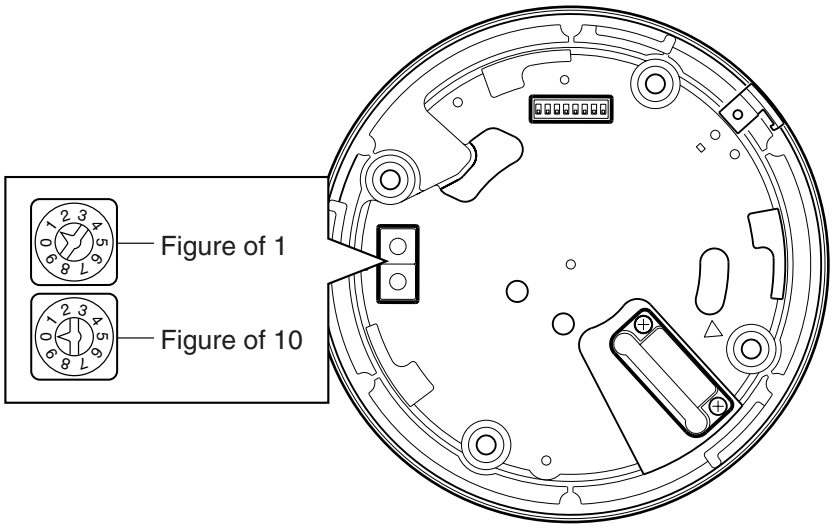
- **RX TERM (Switch 8)**
  This switch sets whether or not the section between control signal terminals RX + and RX – is to be terminated (with a resistance of 110 Ω.)

RX Termination	Switch 8
Terminated (110 Ω)	ON
Open	OFF

(Default setting: Terminated (110 Ω))

When the system in which this camera is used is a multi-drop system (RS-485 system), set only the camera located at the extreme end of the control signal cables to "Terminated" and set the other cameras to "Open".

■ Setting switches



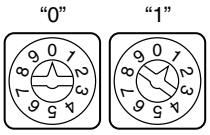
- **Machine ID**

  When using a multi-drop system with a remote control unit such as a RM-P2580, the machine IDs need to be set for each camera.

  Machine IDs are used to identify each of the multiple cameras connected to the RM-P2580. Set the machine IDs according to the corresponding VIDEO INPUT terminal numbers on the RM-P2580.

  (Example)

  The machine ID of the camera connected to VIDEO INPUT 1 should be set to “0” “1” as shown on the right.



— MEMO

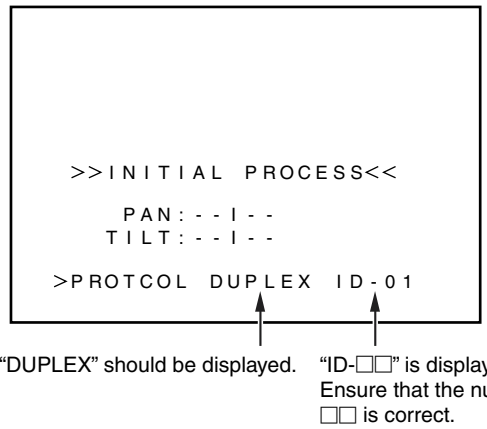
In a system using an RM-P2580, multiple cameras are connected by a single set of control cables. An error in the switch setting of even a single camera will make the entire system inoperable.

<Camera ID check procedure>

1. Set the picture being monitored to that of the camera to be checked.

2. Turn the AC 24V power source of the camera OFF and then ON again.

3. The camera now performs the initialization operation and the following display appears:



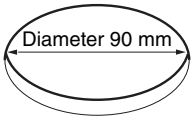
4. Ensure that “DUPLEX” and “ID-□□” are displayed and that the ID number is identical to the VIDEO INPUT terminal number on the RM-P2580.

5. If the ID number is incorrect, reset it accordingly.

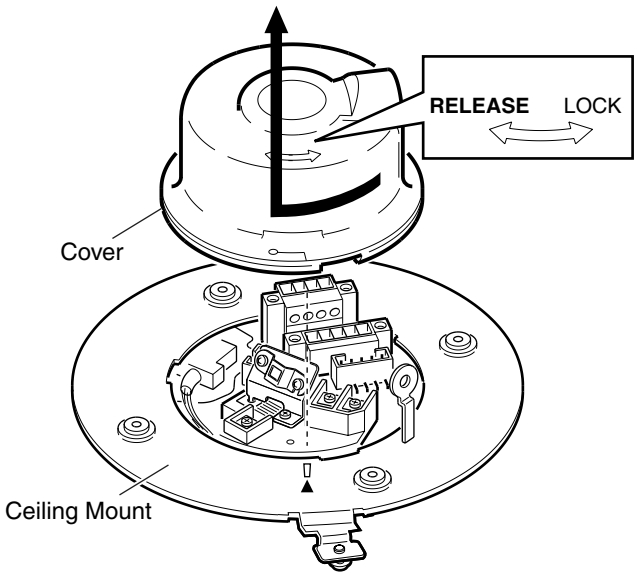
Cable Connections

Connect cables to the Ceiling Mount as described below.

1. Make a 90 mm diameter hole in the ceiling.

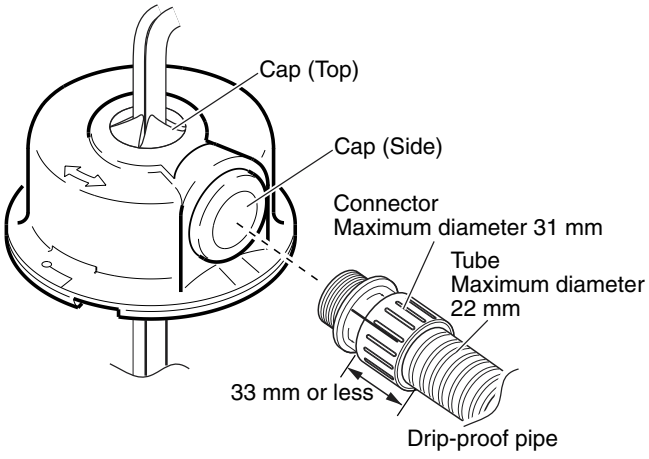


2. Remove the cover from the Ceiling Mount.



3. Pass the cables through the cover.

Make slits in the rubber cap on the cover as shown in the diagram below. Pull the cables through the hole in the ceiling and pass the cables through the slits.

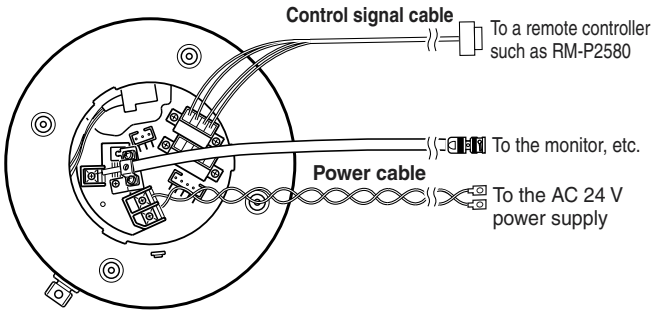


MEMO

The diameter of the cover hole without the cap is 20.5 mm. For dust prevention, remove the cap (side) and install a drip-proof pipe.
(Be sure to use a drip-proof pipe. The maximum diametre of the pipe connector is 31 mm.)
When distributing the cable from the side, use JVC's WB-S573 ceiling direct-mount bracket. In this case, the length of the connector should be 33 mm or less, and the maximum diameter of the tube should be 22 mm or less.

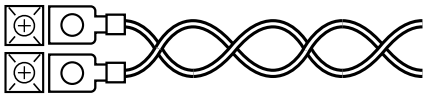
4. Connect the cables.

Connect the cables to the terminals on the Ceiling Mount. The four connections consist of a AC 24V power cable, a coaxial cable and a control signal cable.



AC 24V power cable

This cable connects the AC 24V power supply to the AC 24V input connector. To prevent connection errors and disconnections, the use of lug plate for connections to the AC 24 V INPUT connector is recommended.



When a 2-conductor VVF (Vinyl-insulated vinyl-sheath cable) is used, the maximum connection length is as shown below. (These are merely the standard reference values.)

Maximum cable length	100 m	260 m	410 m	500 m
Wire diameter (mm)	1.0 or more	1.6 or more	2.0 or more	2.6 or more

CAUTIONS

- When thin cables are used the cable resistance increases. As a result, when the power consumption of the unit is at its maximum level (during the simultaneous operation of panning and tilting) the effective voltage will drop.
  When the voltage drops while the camera is in use, performance can become unstable and preset positions may not be reproduced accurately.
  To prevent problems, either use thicker cables that have lower resistance or decrease the cable length by installing the power supply unit closes to the camera. Attempt to reduce the voltage drop to less than 10% while the rated current level of the camera is flowing through the cable.
- Do not connect an AC 24V cable directly to an AC 230 V outlet. This will cause damage to the unit.

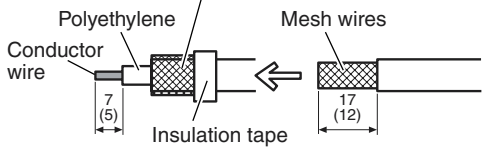
Coaxial cable

Connecting a **RG-59** coaxial cable.

If a **RG-11** coaxial cable is used it cannot be connected directly to the terminal board. To use such a cable, connect a **RG-59** cable to the camera and then connect the **RG-11** cable to the **RG-59** cable.

Trim the end of the coaxial cable as shown below before connecting it.

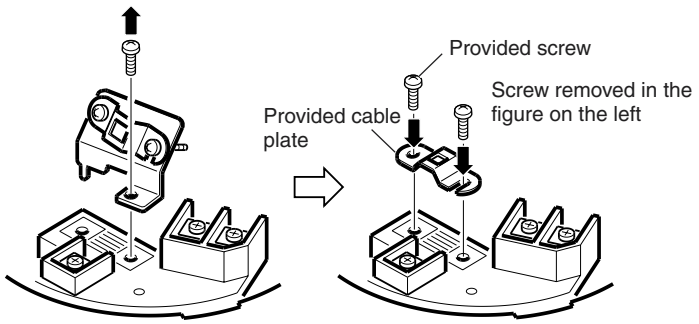
Fold back the mesh wires and secure them with insulation tape in order to prevent them from becoming loose and thus causing a short circuit.



The figures inside the brackets ( ) are the dimensions when the coaxial cable is distributed from the side of the cover. (Unit : mm)

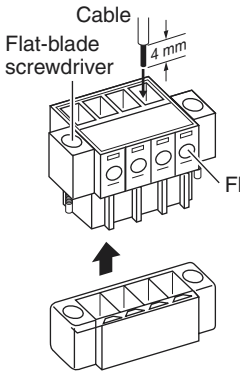
If the cable is extended, the signal attenuation is increased, the resolution drops and the noise increases. Should it be required to extend the cable, use a thicker cable or a cable length compensator.

To feed the coaxial cable through the cap on the side of the cover, change the positioning of the cable plate as shown below.



Control signal cables

The RM-P2580 unit allows the connection of up to eight cameras to the one set of control signal cables. The overall maximum permissible length of these control signal cables is 1200 metres.



The connector can be released by loosening the screws on the two sides as shown in the figure.

Strip the coating of each cable by about 4 mm before inserting it. After connecting all of the cables, turn the screws on the side to fasten the connectors.

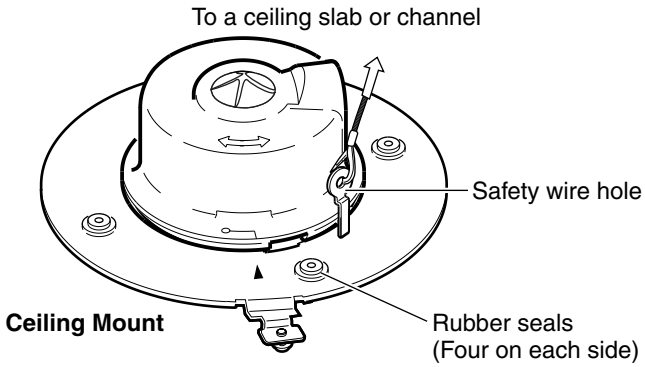
It is recommended to use a 4-core (a pair) twisted pair cable (0.65) or a twisted pair cable of category 3 or higher which is used for Ethernet.

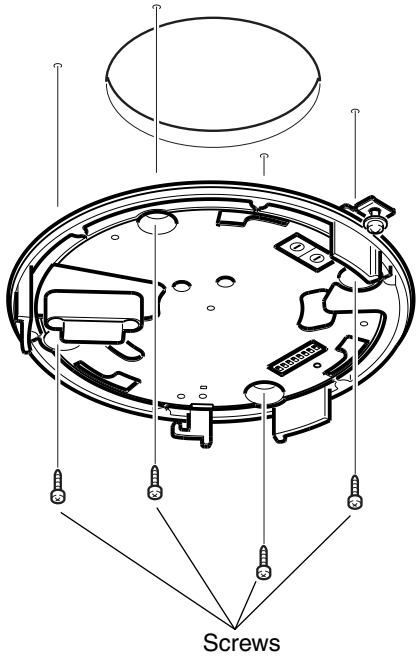
Cables with a thickness between 16 AWG and 26 AWG can be used. Connect the control signal cables so that the TX+ and TX- signals form a pair and the RX+ and RX- signals form another pair.

5. Attach the cover.

Attach the cover to the Ceiling Mount by reversing the operations in step ***2***.

Attaching the Ceiling Mount





1. Attaching a safety wire.

Attach a safety wire to the Ceiling Mount and to the ceiling slab or channel to prevent the unit from being able to fall to the floor. First attach the safety wire to the Ceiling Mount by passing the wire through the safety wire hole (see the diagram on the left).

— MEMO

- Connect the wire so that it can be insulated from the ceiling structure. If the ceiling structure is made of a metallic material, inadequate insulation with the camera may produce noise in the video signal.
- Use a wire and ceiling attachment having sufficient length and strength to prevent danger in case the camera drops.
- A safety wire is not provided. Please use an appropriate commercially available wire.

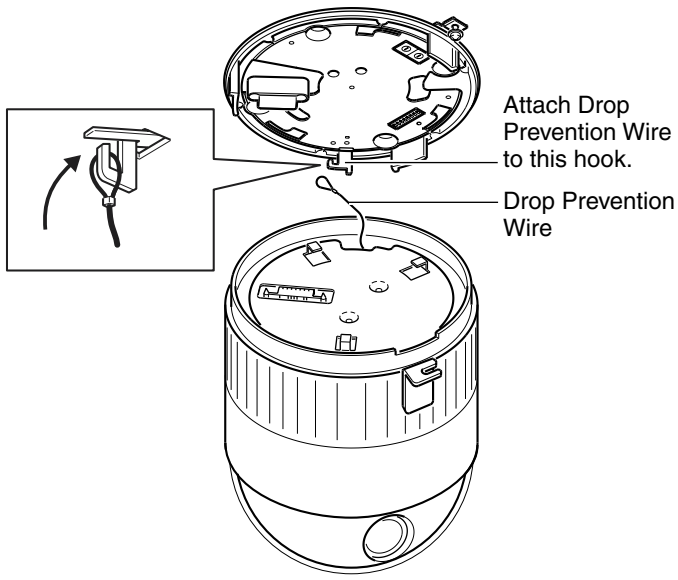
2. Attaching the Ceiling Mount to the ceiling.

While taking care not to catch the connection cables, attach the Ceiling Mount to the ceiling using four screws (as shown in the diagram). Use M4-sized screws or bolts. If woodscrews are used, use those with a diametre of 4.1 mm.

— MEMO

- Be sure to use four screws and attach them firmly. If the screws are not tightened firmly, dust and moisture may enter the unit via the screw holes.
- The rubber seals attached to the Ceiling Mount screw holes of the Ceiling Mount play the role of insulation in case the ceiling structure is made of a metallic material as well as the role of drip proofing. If the ceiling structure is made of a metallic material, improper insulation with the camera may produce noise in the video. To prevent this occurring, be sure to ensure correct insulation of the installation.

Attaching the Camera



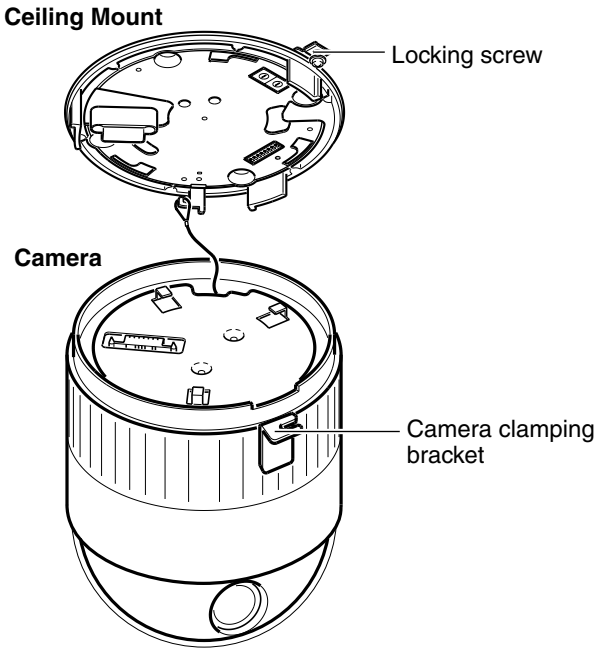
1. Attach the drop prevention wire.

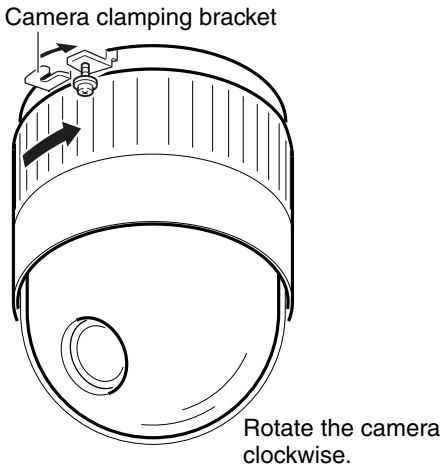
As shown in the diagram, take the drop prevention wire from the camera and attach it to the hook on the Ceiling Mount.

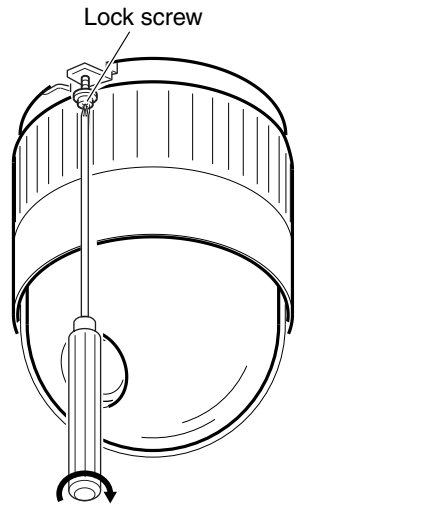
Be sure to connect the drop prevention wire. Otherwise, the camera will not fit properly to the Ceiling Mount. If they are engaged forcibly, they may be damaged.

CAUTION

Be sure to attach the safety cable. Otherwise, the camera could fall to the floor, caring damage to itself and any person passing underneath.







2. Ensure that the locking screw is loose.

The camera cannot be attached properly if the locking screw of the Ceiling Mount is too tight at this stage.

3. Fit the camera.

Check the position of the camera clamping bracket and that of the locking screw, and fit the camera to the Ceiling Mount.

4. Rotate the camera.

Make sure that the camera is horizontal, then turn the camera clockwise until it stops. Ensure that the camera-clamping bracket is in line with the locking screw of the Ceiling Mount.

5. Tighten the locking screw.

Tighten the lock screw using a Phillips screwdriver.

CAUTION

If the locking screw is not tightened firmly, the camera may vibrate or come loose. Be sure to tighten the locking screw firmly.

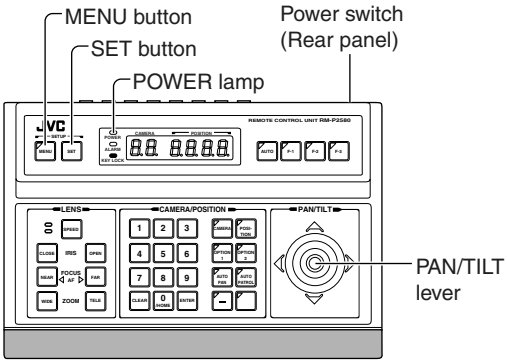
* To remove the camera from the Ceiling Mount, reverse the steps ***1*** to ***5***.

Setting Up the Camera Using an RM-P2580

Setup Procedure

In systems using an RM-P2580 remote control unit, the menus for use during camera setup can be displayed on the remote control unit. (Please refer to the instructions for RM-P2580.)

<Setting the camera menus from an RM-P2580>



1. Set the Power switch on the rear panel of the RM-P2580 to ON.

The POWER lamp lights up.

2. Press and hold the MENU button for 3 seconds.

- The LED of the MENU button lights up.
- The SETUP menu of the remote control unit is displayed on the monitor connected to MONITOR OUTPUT-1.

cursor

```
            SETUP
  POSITION SETUP..
> CAMERA..
  CONTROL UNIT..
```

SETUP menu of the remote control unit

3. Move the PAN/TILT lever downwards to move the cursor (>) to "CAMERA" in the menu.

- Tilting the lever upwards (▲) moves the cursor upwards.
- Tilting the lever downwards (▼) moves the cursor downwards.

4. Press the SET button.

- The MENU screen for the camera is displayed.
- Items followed by ".." have further submenus.

```
          ---MENU---
> CAM. FUNCTION..
  CAM. TITLE/ALARM..
  CAM. VIDEO ADJUST..
  CAM. ALC/ExDR..
  AUTO PAN/PATROL/TRACE..
  POSI.FUNCTION SET..
  FACTORY SETTINGS..
```

Indication of presence of submenus

SETUP menu of the camera

5. Tilt the PAN/TILT lever up or down to select an item.

Change mark

```
     ---CAMERA FUNCTION---
  V.PHASE          0
>*POS.TITLE LOC.   UP-L
  FLIP             DIGITAL
  VAR.P/T SPEED    ON
  EASY AF          OFF
  V.SHARPNESS      NORMAL
  PRIVATE MASK..
```

Example of a submenu

6. Tilt the PAN/TILT lever to the left or right to change the value of the item.

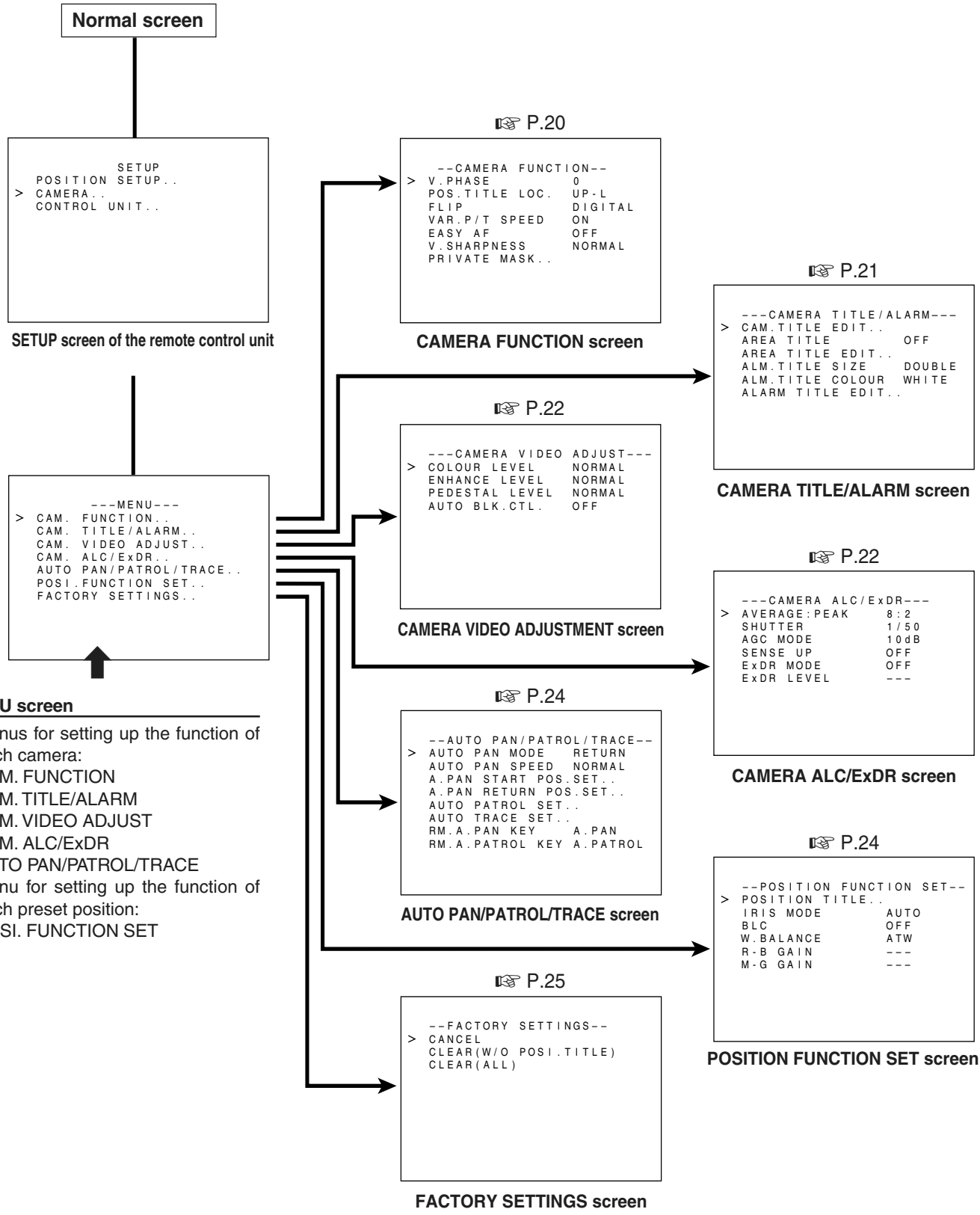
- Tilting the lever towards the left (◀) decreases the value.
- Tilting the lever towards the right (▶) increases the value.

7. Press the MENU button.

After completing the setup of the menu items, press the MENU button to return to the previous menu screen.

Menu Screen Flow

The menu screens are arranged in a hierarchical structure as shown below. Refer to the respective reference pages for the details of each menu.



CAMERA FUNCTION Screen

This screen sets up the functions of the camera itself.

Item	Function & Setting	Initial Value
V. PHASE	This adjusts the vertical synchronization to those of other cameras when a selector switch for the synchronizing system on the Ceilling Mount is at LL. (50 Hz power region only.) **Setting values** : –156 to 0 to 156	**0**
POS. TITLE LOC.	Sets the location of the position title and area title in the monitor. **UP** : At the top of the screen. **DOWN** : At the bottom of the screen. **L** : In the left half of the screen. **C** : In the centre of the screen. **R** : In the right half of the screen **Setting values** : UP-L, UP-C, UP-R, DOWN-L, DOWN-C, DOWN-R	**UP-L**
FLIP	When a tilting operation is started while this item is OFF, the camera will stop at the position where it is pointing straight downwards. When an object moves directly below the camera, the camera makes three movements ① points the straight downwards ② pans 180° ③ points upwards. The FLIP function makes it possible to reduce these operations. Use this function when monitoring an object passing directly below the camera. **OFF** : Turns the FLIP function off. **DIGITAL** : Once the camera reaches a tilt of 135˚ from horizontal after passing a position facing directly downwards, a picture is inverted both vertically and horizontally. **AUTO** : When the camera reaches a position facing directly downwards, it pans by 180° then stops.	**DIGITAL**
VAR. P/T SPEED	Under this function, the panning and tilting speeds are adjusted automatically relative to the zoom ratio of the lens. Setting the zoom lens towards TELE decreases the pan and tilting speeds. Setting the zoom lens towards WIDE end increases the pan and tilting speeds. Use this function when monitoring objects at differing zoom ratios. **OFF** : Turns this function off. **ON** : Turns this function on.	**ON**
EASY AF	When this item is set to ON, the auto focusing (AF) is activated automatically during manual pan/tilt and zoom operations. This function is convenient when frequent manual operations are expected as it eliminates the need to focus manually after every manual operation. **OFF** : Turns this function off. **ON** : Turns this function on. **— MEMO —** Auto focusing may sometimes be incapable of bringing certain objects into accurate focus. (☞ P. 5) In this case, use the manual focusing facility.	**OFF**
V.SHARPNESS	This function sets sharpness in the vertical direction of the image. **NORMAL** : Normal sharpness. **HIGH** : High sharpness. **— CAUTION —** The following phenomena may be observed when HIGH is selected. This is not a malfunction. • Horizontal stripes are observed on bright objects. • Vague horizontal stripes are observed under low light conditions.	**NORMAL**
PRIVATE MASK..	This function grays out sections that are not to be displayed in the monitored picture area. The grayed out section moves accordingly when the camera is panned, tilted or when the zoom is adjusted. ☞ P.26, “PRIVATE MASK Setup”	**—**

CAMERA TITLE/ALARM Screen

This screen sets items related to titles and alarms.

*This unit is not equipped with alarm input/output.
The item ALARM TITLE is used to set the alarm title, which is displayed when an alarm signal is input to the RM-P2580 remote control unit. (Please refer to the instruction manual for the RM-P2580.)

Item	Function & Setting	Initial Value
CAM. TITLE EDIT ··	This sets the title which is displayed permanently at the bottom left of the picture. This title can be up to 16 characters in length. ☞ P. 27, “CAMERA TITLE Setup”	**—**
AREA TITLE	The 360° panning range can be divided into 16 areas and a title, of up to 16-character in length, can be set for each area. As the camera is panned manually these area titles are displayed. This function determines whether area titles are displayed or not. **ON** : Display area titles. **OFF** : Do not display area titles.	**OFF**
AREA TITLE EDIT ··	Sets the area titles. ☞ P. 28, “AREA TITLE Setup”	**—**
ALM. TITLE SIZE	Sets the size of the characters in the alarm title. (Displayed when an alarm is activated.) **NORMAL** : Same size as the characters used in the menu screen. **DOUBLE** : Double the size, both horizontally and vertically, of the characters used in the menu screen.	**DOUBLE**
ALM. TITLE COLOUR	Sets the colour of the alarm titles. **Setting values**: WHITE, YELLOW, CYAN, GREEN	**WHITE**
ALARM TITLE EDIT ··	Sets the alarm titles. ☞ P. 29, “ALARM TITLE Setup”	**—**

CAMERA VIDEO ADJUSTMENT Screen

This menu sets the picture signal of the camera, such as the colour level and contour enhancement.

Item	Function & Setting	Initial Value
COLOUR LEVEL	Sets the colour level of the picture signal. **To increase** : Set a smaller value. **To decrease** : Set a larger value. **Setting values** : –5 to NORMAL to 5.	**NORMAL**
ENHANCE LEVEL	Sets the contour enhancement which controls the sharpness of the monitor picture. **To soften the picture** : Set a smaller value. **To sharpen the picture** : Set a larger value. **Setting values** : –5 to NORMAL to 5.	**NORMAL**
PEDESTAL LEVEL	Sets the pedestal level (black level) of the video signal. **To darken the picture** : Set a smaller value. **To brighten the picture** : Set a larger value. **Setting values** : –5 to NORMAL to 5.	**NORMAL**
AUTO BLK. CTL	Use this function when darker parts of a picture are unclear even after the gain has been increased using the AGC (Auto Gain Control). **ON** : When the black level of the video signal is low, the pedestal level is increased automatically in order to improve the clarity of the darker parts. **OFF** : Turns this function off.	**OFF**

CAMERA ALC/ExDR screen

This screen adjusts the settings of automated functions relating to picture brightness.

Item	Function & Setting	Initial Value
AVERAGE : PEAK	Sets the method of exposure detection to the ratio between the average and peak values. **Large Average value** : Use this setting when areas other than the highlighted areas are filled with dark. (Example: 10:0) **Large Peak value** : Use this setting when highlighted areas appear as halation. (Example: 5:5) **Setting values** : 10:0, 9:1, 8:2, 7:3, 6:4, 5:5	**8:2**
SHUTTER	Sets the electronic shutter speed. When the SENSE UP item is set, the only two values that can be selected are 1/50 and 1/120. When the item “ExDR MODE” is set to “ON”, the available settings for the SHUTTER are limited to 1/50 and 1/120. **Setting values** : 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 **— MEMO —** ● To reduce the flickering which occurs under fluorescent lighting, set the shutter speed to 1/50 if your local power supply frequency is 50 Hz and to 1/120 if it is 60 Hz. ● When a high shutter speeds are used, white stripes may be observed above and below bright objects. This is called the smear phenomenon and is usual to CCD cameras.	**1/50**

CAMERA ALC/ExDR Screen (Continued)

Item	Function & Setting	Initial Value
AGC MODE	Sets the maximum gain of the AGC (Auto Gain Control), which electronically increases the gain when the object is under low light conditions. **OFF** : Turns the AGC off. **10 dB** : According to the brightness of the object, gain is increased by up to 10 dB **20 dB** : According to the brightness of the object, gain is increased by up to 20 dB **SUPER** : Use this setting when brightness is still insufficient under the "20 dB" setting. **— MEMO —** ● Note that increasing gain affects picture quality. ● When the "SUPER" setting is used, the AGC operation may take a while to adjust to sudden drastic changes in the brightness level.	**10 dB**
SENSE UP	This function is used to increase the sensitivity by extending the exposure time. Increasing this value slows the shutter speed and motion may appear unnatural. When the item "SHUTTER" is set to "1/250" or more, the SENSE UP item does not work and "---" is displayed as the item name in the CAMERA ALC/ExDR Screen. **Setting values**: OFF, x2 **— MEMO —** ● When SENSE UP is activated, the picture may become rough and whitish, and subject to white blemishes. ● When the setting of the "SENSE UP" function is not OFF, flicker may appear on the screen under fluorescent light or mercury lamps. This is due to the principles of the SENSE UP, and is not a malfunction. ● There may be cases where flicker can not be reduced even under the following conditions: 1) Shutter speed is set at 1/120 in areas where the commercial electric current frequency is 50 Hz. 2) The shutter speed is set at 1/50 in areas where the commercial electric current frequency is 60 Hz.	**OFF**
ExDR MODE	The ExDR function synthesizes pictures captured at a shutter speed of 1/100 and those captured at higher shutter speeds to help monitor objects having large differences in brightness levels. When the "SHUTTER" function is set to "1/250" or a higher, this function does not work and "---" is displayed as the item name in the CAMERA ALC/ExDR Screen. **OFF** : Turns the ExDR function off. **ON** : Turns the ExDR function on. **— MEMO —** ● When the ExDR function is on, flicker may appear on the screen under fluorescent light or mercury lamps. This is due to the principles of the ExDR, and is not a malfunction. ● There may be cases where flicker cannot be reduced even under the following conditions: 1) Shutter speed is set at 1/120 in areas where the commercial electric current frequency is 50 Hz. 2) The shutter speed is set at 1/50 in areas where the commercial electric current frequency is 60 Hz.	**OFF**
ExDR LEVEL	This function sets which section of the object is to be displayed in the easiest-to-view brightness level in the ExDR mode. To make a **low-light** section of the object easy to view: Increase the level. To make a **highlighted** section of the object easy to view: Decrease the level. **Setting values**: –5 to NORMAL to 5 **— MEMO —** ● When the difference in brightness between objects is large, the picture may not change even when the ExDR LEVEL is varied. This is due to the characteristics of the camera and is not a malfunction. ● When the item "SHUTTER" is set to 1/250 or higher, "---" is displayed and the settings to the item "ExDR LEVEL" cannot be carried out. ● When the item "ExDR MODE" is set to OFF, the settings for the item "ExDR LEVEL" cannot be varied.	**NORMAL**

AUTO PAN/PATROL/TRACE Screen

This screen sets up the auto pan function for slow panning, the auto patrol function for switching of positions in sequence, and the auto trace function for the reproduction of the results of manual camera operations.

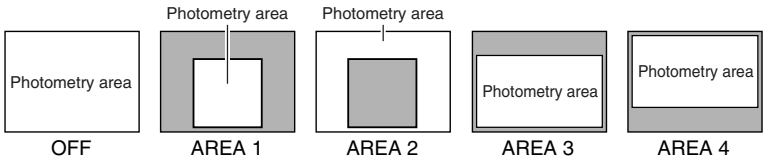
Item	Function & Setting	Initial Value
AUTO PAN MODE	Determines movement during auto panning. **RETURN** : Moves continuously between start and return positions. **RIGHT** : Clockwise rotation **LEFT** : Anti-clockwise rotation. ☞ P. 30, "AUTO PAN Setup"	**RETURN**
AUTO PAN SPEED	Sets the rotation speed during auto panning. **LOW** : Low speed. **NORMAL** : Normal speed. **HIGH** : High speed.	**NORMAL**
A. PAN START POS. SET..	Sets the auto panning start position.	—
A. PAN RETURN POS. SET..	Sets the auto panning return position.	—
AUTO PATROL SET	Sets the configuration of the auto patrol function. ☞ P. 31, "AUTO PATROL Setup"	—
AUTO TRACE SET	Sets the configuration of the auto trace function. ☞ P. 32, "AUTO TRACE Setup"	—
RM. A. PAN KEY	Determines the function activated by pressing the AUTO PAN button on the remote control unit. **A. PAN** : Auto pan function. **A. PATROL** : Auto patrol function. **A. TRACE** : Auto trace function.	**A. PAN**
RM. A. PATROL KEY	Determines the function activated by pressing the AUTO PATROL button on the remote control unit. **A. PAN** : Auto pan function. **A. PATROL** : Auto patrol function. **A. TRACE** : Auto trace function.	**A. PATROL**

POSITION FUNCTION SET Screen

This screen sets the configurations of functions relating to pictures taken in preset positions.

Item	Function & Setting	Initial Value
POSITION TITLE··	Sets the titles for the 99 preset positions and the home position. Titles can be up to 16 characters in length and are shown in the display. ☞ P. 33, "POSITION TITLE Setup"	—
IRIS MODE	Determines the lens iris adjustment mode. **AUTO** : for auto iris adjustment under standard conditions. **AUTO+** : for auto iris adjustment under slightly brighter conditions. **AUTO–** : for auto iris adjustment under slightly dimmer conditions. **MANUAL** : for manual iris adjustment.	**AUTO**

POSITION FUNCTION SET Screen (Continued)

Item	Function & Setting	Initial Value
BLC	Sets of area of back light compensation. Use this function when the object appears dark (under auto iris control) because of the presence of a bright light source behind it. This function make it possible to place the unnecessary light source outside the photometry area. OFF : The backlight compensation function does not work. ARER 1 to AREA 4 : When the SET button is pressed, the fixed light metering areas are displayed. Select one of the four types. Pushing the MENU button returns the screen to POSITION FUNCTION SET.  **— MEMO —** When the item “ExDR MODE” (☞ page 23) is set to ON, the item “BLC” is set to OFF and “---” is displayed. Under this condition, the settings to the item “BLC” cannot be varied.	**OFF**
W. BALANCE	Determines the setting of the white balance adjustment. The white balance can be adjusted for lighting conditions with colour temperatures from 2500K to 8000K. **ATW** : Auto-Tracking White balance mode, adjusts the white balance automatically according to the colour temperature of the lighting conditions. When ATW is set, “---“ is displayed for the items “R-B GAIN” and “M-G GAIN”, so that the colour phase adjustment cannot be carried out. **AWC** : Auto White Control mode, which displays “PUSH SET → ADJ. STRAT”. When the SET button is pressed, AWC is activated and the white balance adjustment starts. If the AWC is activated while the screen is B&W the LOW LIGHT ERROR will be displayed. This is not abnormal.	**ATW**
R-B GAIN	Adjusts the phases of R (Red) and B (Blue) under AWC mode. • **To enhance blue**: Decrease the value. • **To enhance red** : Increase the value. **Setting values** : 0 to 255	**95**
M-G GAIN	Adjusts the phases of M (Magenta) and G (Green) under AWC mode. • **To enhance green** : Decrease the value. • **To enhance magenta** : Increase the value. **Setting values** : 0 to 255	**63**

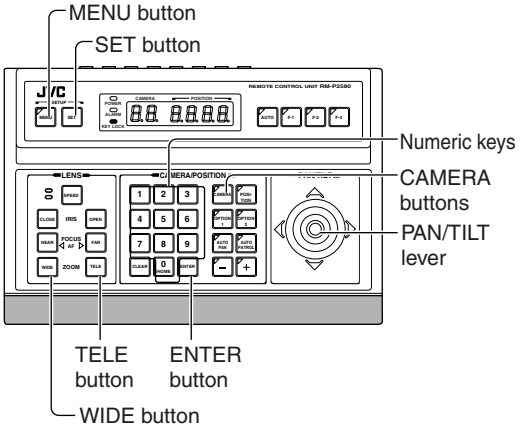
FACTORY SETTINGS screen

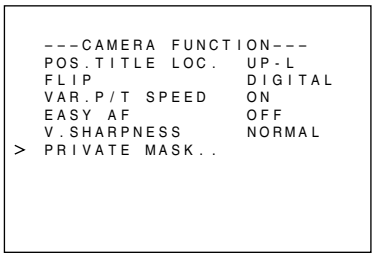
This screen resets values to their factory settings.

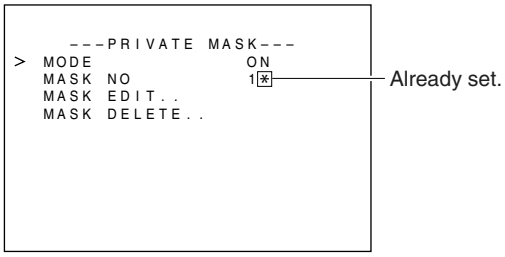
Item	Function & Setting	Initial Value
FACTORY SETTINGS	Resets all settings in the above menus to their initial factory settings. Pressing the SET button displays “EXECUTING” (2 sec. approx.) and resets the settings to the factory settings. **CANCEL** : Does not alter current values. **CLEAR (W/O POS. TITLE)** : Resets the settings to the initial, factory settings. However, the set positions, the setting data of each position and the titles are not reset to the factory settings. **CLEAR (ALL)** : Resets all settings including titles and stored positions.	—

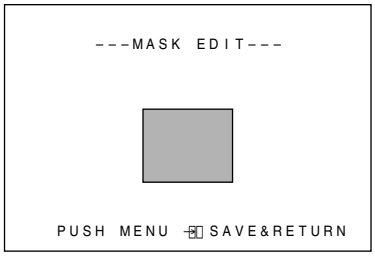
PRIVATE MASK Setup

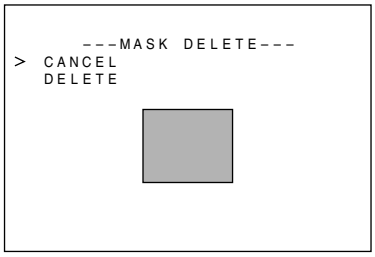
Use the PRIVATE MASK screen to set up the private mask function, which grays out areas that are not required to be included in the monitored picture. Up to four private masks can be set per screen, and up to eight private masks can be set in total.











1. Select the camera. (☞ RM-P2580 Instruction manual)

CAMERA button → Numeric key (camera number) → ENTER button.
The picture of the selected camera is output.

2. Select the angle of view.

Use the PAN/TILT lever and the lens button to set the viewing angle to which the private mask function is to be applied.

3. Display the SETUP menu on the camera.

(☞ P. 18, steps *1* to *4*)
MENU button (3 sec.) → Select "CAMERA" using the PAN/TILT lever → SET button.
The camera moves to the home position.

4. Tilt the PAN/TILT lever up or down to move the cursor (>) to "CAMERA FUNCTION" and press the SET button.

The CAMERA FUNCTION menu is displayed.

5. Move the cursor (>) to "PRIVATE MASK" and press the SET button.

The PRIVATE MASK submenu is displayed.

6. Select the private mask function ON or OFF.

Turn the private mask function on or off by setting the "MODE" item in the submenu to ON or OFF (Factory setting: OFF)

7. Select the mask number.

Select the private mask number from MASK NO. 1 to 8 and move the cursor on to the item "MASK EDIT." Of these, a maximum of 4 can be set within one picture.
If an already set mask number is selected, the (∗) mark will be displayed.

8. Edit the masking area.

- Move the cursor to "MASK EDIT" and press the SET button to display the MASK EDIT screen. (The masked area will be displayed as a grayed-out area.)
- Tilt the PAN/TILT lever to move the grayed-out area to the centre of the area to be masked.
- Press the TELE and WIDE buttons to set the masked area size.

CAUTIONS

- It is not possible to set five or more masks in adjacent areas. (Even when this is attempted, the masked area that is required to be set will not be displayed.)
- MASK cannot be set at lower than approx. 45° in the horizontal direction. (The masks for new settings are not displayed.)

9. Press the MENU button.

- The screen returns to the "PRIVATE MASK menu".
- To delete a private masked area, select "MASK DELETE", move the cursor to "DELETE" and press the SET button.
  The PRIVATE MASK menu reappears after the data has been deleted.
  To cancel deletion, select "CANCEL" and press the SET button.

10. Repeat steps *6* to *9* for each additional masked area.

11. Press the MENU button.

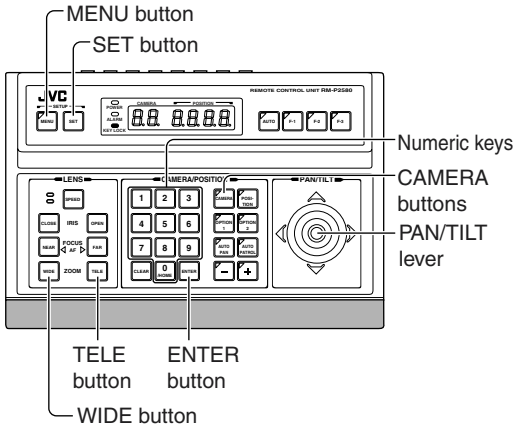
The screen returns to the "CAMERA FUNCTION" menu.

CAUTIONS

- Depending on the camera direction, a picture may be shot even in the setting private mask area.
- The private MASK function cannot be carried out during the initializing process immediately after the power is turned on.
- If the picture being shot contains 5 or more masks, the entire picture is masked.

CAMERA TITLE Setup

Use the CAMERA TITLE screen to set the title of each camera.
Titles can be up to 16 characters in length and are displayed at the bottom left of the picture.



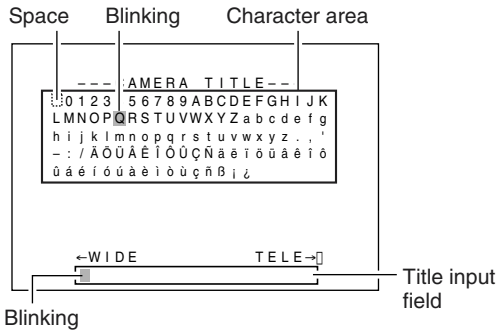
Cursor

```
        ---MENU---
  CAM. FUNCTION..
> CAM. TITLE/ALARM..
  CAM. VIDEO ADJUST..
  CAM. ALC/ExDR..
  AUTO PAN/PATROL/TRACE..
  POSI.FUNCTION SET..
  FACTORY SETTINGS..
```

SETUP menu display on the camera

```
  ---CAMERA TITLE/ALARM---
> CAM.TITLE EDIT..
  AREA TITLE        OFF
  AREA TITLE EDIT..
  ALM.TITLE SIZE    DOUBLE
  ALM.TITLE COLOUR  WHITE
  ALARM TITLE EDIT..
```

TITLE ALARM menu



CAMERA TITLE screen

1. Select the camera. (☞ RM-P2580 Instruction manual)

CAMERA button → Numeric key (camera number) → ENTER button.
The picture of the selected camera is output.

2. Display the SETUP menu on the camera.

(☞ P. 18, steps ***1*** to ***4***)
MENU button (3 sec.) → Select “CAMERA” with the PAN/TILT lever → SET button.
The camera moves to the home position.

3. Tilt the PAN/TILT lever up or down to move the cursor (>) to “CAMERA TITLE/ALARM” and press the SET button.

The TITLE/ALARM menu is displayed.

4. Ensure that the cursor (>) is located on “CAMERA TITLE” and press the SET button.

- The CAMERA TITLE screen is displayed.
- The first characters in the character area and title input field blink to indicate that the system is ready for title input.

5. Tilt the PAN/TILT lever to select the first character of the title from the character area.

- The character being selected blinks.
- The selected character is displayed in the title input field.

6. Press the TELE button.

- The first character of the title is input, and the camera gets ready for the input of the second character.
- If the WIDE button is pressed, the blinking position in the title input field moves to the left. Use this facility to correct previously input characters.

7. Repeat steps *5* and *6* for each title character.

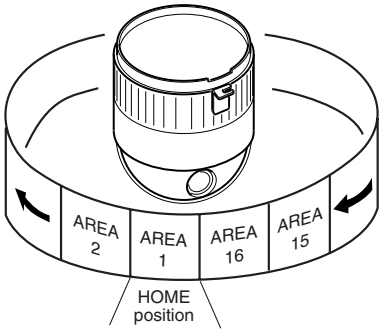
Complete the input of the title for the selected camera in this way.

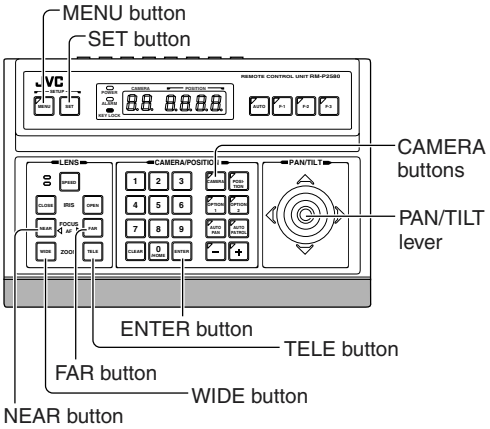
8. Press the MENU button.

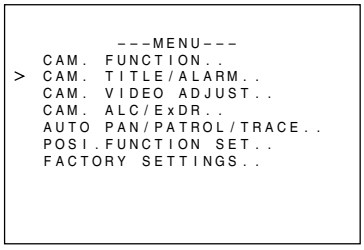
- The screen returns to the previous menu.
- To set the titles for multiple cameras, repeat steps ***1*** to ***7*** for each camera.

AREA TITLE Setup

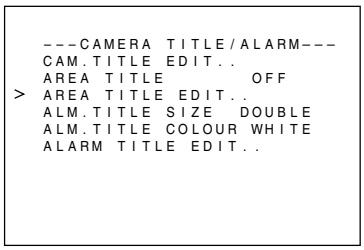
The 360° panning range of the camera can be divided into 16 equally sized areas and an area title can be set for each area. Titles can be of up to 16 characters in length and are displayed in the picture as the camera is panned manually. (Area title display ON/OFF: ☞ P. 21, Item “AREA TITLE”. Area title display position ☞ P. 20, Item “POS. TITLE. LOC.”)



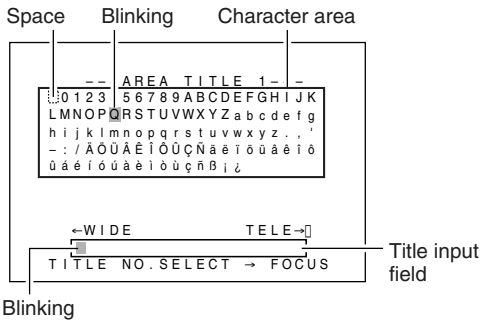




SETUP menu display on the camera



TITLE ALARM screen



AREA TITLE screen

1. Select the camera. (☞ RM-P2580 Instruction manual)

CAMERA button → Numeric key (camera number) → ENTER button.
The picture of the selected camera is output.

2. Display the SETUP menu on the camera.

(☞ P. 18, steps ***1*** to ***4***)
MENU button (3 sec.) → Select “CAMERA” with the PAN/TILT lever → SET button.
The camera moves to the home position.

3. Tilt the PAN/TILT lever up or down to move the cursor (>) to “CAMERA TITLE/ALARM” and press the SET button. The TITLE/ALARM menu is displayed.

4. Move the cursor (>) to “AREA TITLE EDIT” and press the SET button.

- The AREA TITLE 1 screen is displayed.
  AREA TITLE 1 corresponds to the home position.
- The first characters in the character area and title input field blink to indicate that the system is ready for a title input.

5. Tilt the PAN/TILT lever to select the first character of the title from the character area.

- The character being selected blinks.
- The selected character is displayed in the title input field.

6. Press the TELE button.

- The first character of the title is input, and the system gets ready for the input of the second character.
- If the WIDE button is pressed, the blinking position in the title input field moves to the left. Use this facility to correct previously input characters.

7. Press the FAR button.

- The camera pans to the next area and the AREA TITLE 2 screen is displayed.
- If the NEAR button is pressed, the camera pans back to the previous area and the previous AREA TITLE 1 screen is displayed.

8. Repeat steps *5* to *7* for each area title.

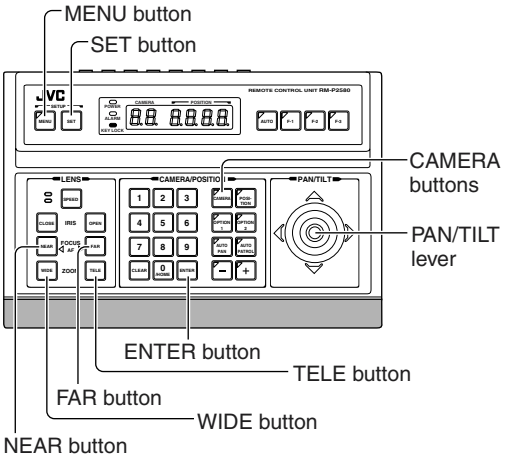
Complete the input of all area titles in this way.

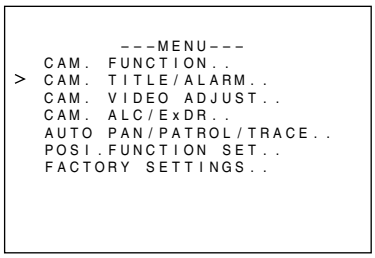
9. Press the MENU button.

- The screen returns to the previous menu.

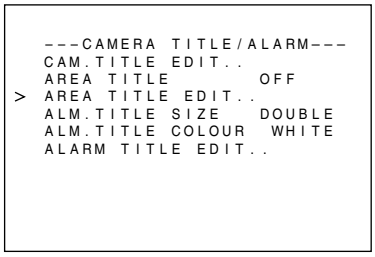
ALARM TITLE Setup

This unit is not equipped with alarm input/output.
This function sets up the alarm title to be displayed when an alarm signal is input to the RM-P2580 remote control unit.
Up to 10 alarm titles (ALARM TITLE 1 to 10) can be set and each title can be up to 12 characters in length.

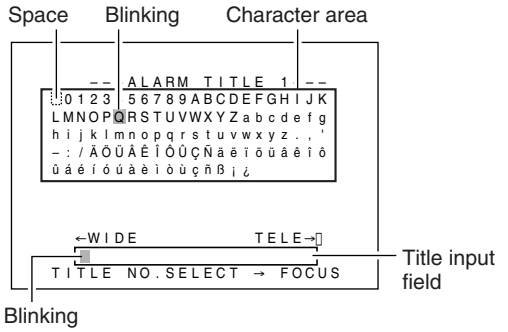




SETUP menu on camera



TITLE/ALARM menu



ALARM TITLE screen

1. **Select the camera. (☞ RM-P2580 Instruction manual)**
CAMERA button → Numeric key (camera number) → ENTER button.
The picture of the selected camera is output.

2. **Display the SETUP menu on the camera.**
(☞ P. 18, steps ***1*** to ***4***)
MENU button (3 sec.) → Select "CAMERA" with the PAN/TILT lever → SET button.
The camera moves to the home position.

3. **Tilt the PAN/TILT lever up or down to move the cursor (>) to "CAMERA TITLE/ALARM" and press the SET button.**
The TITLE/ALARM screen is displayed.

4. **Move the cursor (>) onto the item "ALARM TITLE EDIT" and press the SET button.**
- The ALARM TITLE 1 menu is displayed.
- The first few characters in the character area and title input field blink to indicate that the system is ready for a title input.

5. **Tilt the PAN/TILT lever to select the first character of the title from the character area.**
- The character being selected blinks.
- The selected character is displayed in the title input field.

6. **Press the TELE button.**
- The first character of the title is input, and the system gets ready for the input of the second character.
- If the WIDE button is pressed, the blinking position in the title input field moves to the left. Use this facility to correct previously input characters.

7. **Press the FAR button.**
- The next ALARM TITLE screen is displayed.
- If the NEAR button is pressed, the previous ALARM TITLE screen is displayed.

8. **Repeat steps *5* to *7* for each alarm title.**
Complete the input of all the alarm titles (ALARM TITLE 1 to 10) in this way.

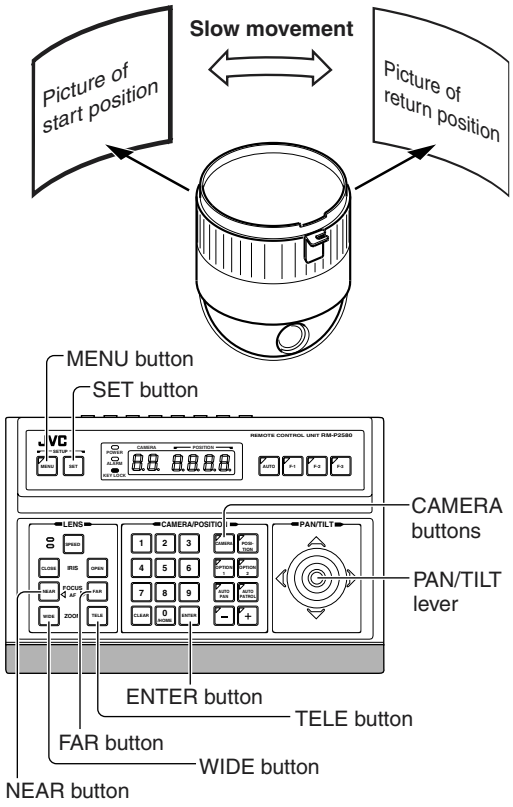
9. **Press the MENU button.**
- The screen returns to the previous menu.

RM-P2580 units need to be configured to display Alarm Titles. Use the RM-P2580 menu settings to do this:

1. Press and hold the MENU button for 3 seconds to display the SETUP screen on the remote control unit.
2. First select the CONTROL UNIT screen, then the DATA I/O screen and finally the INPUT ASSIGNMENT screen.
3. Select "ALARM TEXT" then "EDIT 1", the alarm title set as ALARM TITLE 1 is displayed on the monitor.
   * The alarm signals are input into the DATA I/O terminals on the rear panel of the RM-P2580.

AUTO PAN Setup

Use the AUTO PAN screen to set the auto pan function, which allows the camera to be revolved slowly in a horizontal direction) The auto pan function has three modes, the RETURN mode for continual movement between two positions, the RIGHT mode for clockwise rotation and the LEFT mode for anti-clockwise rotation.




```
---AUTO PAN/PATROL/TRACE---
   AUTO PAN MODE    RETURN
   AUTO PAN SPEED   NORMAL
>  A.PAN START POS.SET..
   A.PAN RETURN POS.SET..
   AUTO PATROL SET..
   AUTO TRACE SET..
   RM A.PAN KEY     A.PAN
   RM A.PATROL KEY  A.PATROL
```

AUTO PAN/PATROL/TRACE menu

```
---START POSITION SET---

PUSH MENU → SAVE&RETURN
```

START POSITION SET screen

```
---RETURN POSITION SET---

PUSH MENU → SAVE&RETURN
```

RETURN POSITION SET screen

1. Select the camera. (☞ RM-P2580 Instruction manual)

CAMERA button → Numeric key (camera number) → ENTER button.
The picture of the selected camera is output.

2. Display the SETUP menu on the camera.

(☞ P. 18, steps ***1*** to ***4***)
MENU button (3 sec.) → Select "CAMERA" with the PAN/TILT lever → SET button.
The camera moves to the home position.

3. Tilt the PAN/TILT lever up or down to move the cursor (>) to "AUTO PAN/PATROL TRACE" and press the SET button.

The AUTO PAN/PATROL/TRACE menu is displayed.

4. Set the auto pan mode and speed.

- Select the "AUTO PAN MODE" item and then select either RETURN (continual movement between two positions), RIGHT(clockwise rotation) or LEFT (anti-clockwise rotation).
- Select the "AUTO PAN SPEED" item and then select either LOW, NORMAL or HIGH.

5. Move the cursor (>) to "A. PAN START POSITION SET" and press the SET button.

The START POSITION SET screen is displayed.

6. Adjust the viewing angle of the start position.

- Use the PAN/TILT lever, FOCUS button and ZOOM button to adjust the viewing angle.
- Tilting of the camera and changes in lens controls such as the FOCUS and ZOOM settings are not available at the return position.

7. Press the MENU button.

The AUTO PAN/PATROL/TRACE screen shows "DATA SAVED" to indicate that the viewing angle for the start position has been registered.

8. Move the cursor (>) to "A. PAN RETURN POSITION SET" and press the SET button. (RETURN mode only)

The RETURN POSITION SET screen is displayed.

9. Adjust the viewing angle of the return position. (RETURN mode only)

Pan the camera in the right and left directions and adjust the viewing angle.

— MEMO

- It is not possible to tilt the camera or change the lens settings at the return position.
- If the SET or MENU buttons are pressed while the camera is moving, the correct settings cannot be registered. Make sure that the camera is stationary before pressing the SET or MENU buttons.

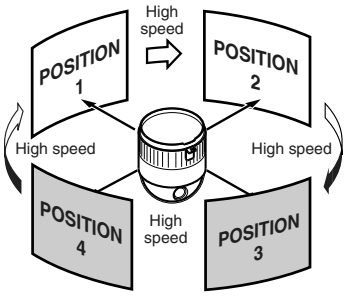
10. Press the MENU button.

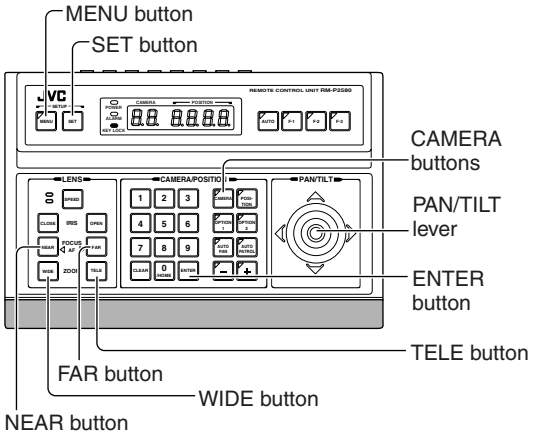
- The screen returns to the previous menu.

After the above setup, auto panning of the camera can be started by pressing the AUTO PAN button on the RM-P2580.
☞ "Auto Panning" in the RM-P2580 Instruction manual.

AUTO PATROL Setup

Use the AUTO PATROL screen to set the configuration of the auto patrol function, which moves the camera between several positions at a high speed.
Patrol positions 1-100 can be set in each of three modes (MODES 1 to 3). It is recommended that these three modes be set the according to the day of the week or the time of day. For example: MODE 1 for nighttime and MODE 2 for daytime.






```
---AUTO PAN/PATROL/TRACE---
> AUTO PAN MODE    RETURN
  AUTO PAN SPEED   NORMAL
  A.PAN START POS.SET..
  A.PAN RETURN POS.SET..
  AUTO PATROL SET..
  AUTO TRACE SET..
  RM A.PAN KEY     A.PAN
  RM A.PATROL KEY  A.PATROL
```

AUTO PAN/PATROL/TRACE menu

```
      AUTO PATROL MODE1
> PATROL1    HOME    10s
  PATROL2    POS1    10s
  PATROL3    POS2    10s
  PATROL4    POS3    10s
  PATROL5    POS4    10s
  PATROL6    POS5    10s
  PATROL7    POS6    10s
  PATROL8    POS7    10s

 FWD/BWD→ZOOM MODE→FOCUS
```

AUTO PATROL MODE 1 screen
(Example showing PATROL Nos.1 to 8)

```
      AUTO PATROL MODE1
> PATROL9    POS8    10s
  PATROL10   POS9    10s
  PATROL11   POS10   10s
  PATROL12   POS11   10s
  PATROL13   POS12   10s
  PATROL14   POS13   10s
  PATROL15   POS14   10s
  PATROL16   POS15   10s

 FWD/BWD→ZOOM MODE→FOCUS
```

AUTO PATROL MODE 1 screen
(Example showing PATROL Nos. 9 to 16)

1. Select the camera. (☞ RM-P2580 Instruction manual)
CAMERA button → Numeric key (camera number) → ENTER button.
The picture of the selected camera is output.

2. Display the SETUP menu on the camera.
(☞ P. 18, steps ***1*** to ***4***)
MENU button (3 sec.) → Select “CAMERA” with the PAN/TILT lever → SET button.
The camera moves to the home position.

3. Tilt the PAN/TILT lever up or down to move the cursor (>) to “AUTO PAN/PATROL TRACE” and press the SET button.
The AUTO PAN/PATROL/TRACE menu is displayed.

4. Move the cursor (>) to “AUTO PATROL SET” and press the SET button.
The AUTO PATROL MODE 1 screen is displayed.

5. Tilt the PAN/TILT lever to move the cursor (>) to the PATROL position to be set.
- To display the next page (PATROL positions 9 to 19), press the TELE button.
- To display the previous page, press the WIDE button.

6. Set a patrolled position.
POSITION button → Numeric key (position number) → ENTER button.
- At the factory settings, positions PATROL 1 to 100 are set to HOME to 99 in that order.
  Even when positions between POS 64 and POS 99 are set, the auto patrol operation skips them automatically and they are not switched.

7. Set the length of time a camera will stay in each position.
- Tilt the PAN/TILT lever to the left or right to set the time period.
- Available setting values: SKIP, 5s, 10s, 20s, 30s, 45s, 1min, 2min. (Selecting “SKIP” skips that position and moves to the next position.)
- The factory setting is “10s” for all positions.

8. Repeat steps *5* to *7* for each patrolled position.
- Set the patrolled positions and time periods of all patrol numbers in this way.

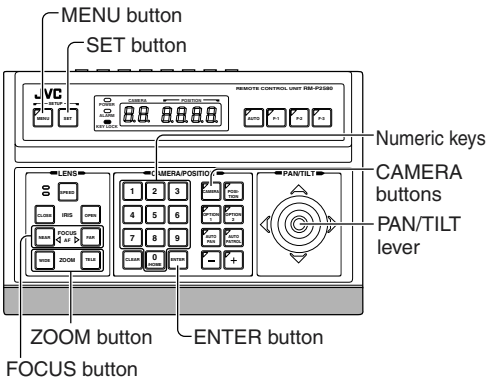
9. Change the auto patrol mode.
- Press the FAR or NEAR buttons to change the mode.
- After changing to a new mode, repeat steps ***5*** to ***8***.

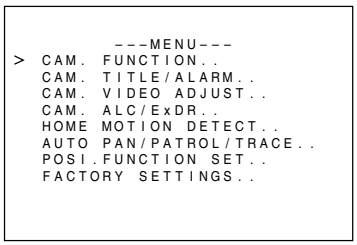
10. Press the MENU button.
- The screen returns to the previous menu.

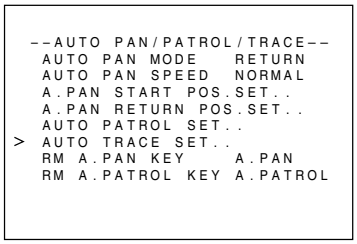
- After the above setup, auto patrol of the camera can be started by pressing the AUTO PATROL button on the RM-P2580.
- To change the auto patrol mode after the above setup, display the AUTO PATROL MODE screen and press the FAR or NEAR buttons.
- The auto patrol function can only be set from an RM-P2580. Note that it differs to auto sequence operations available with other remote control units.

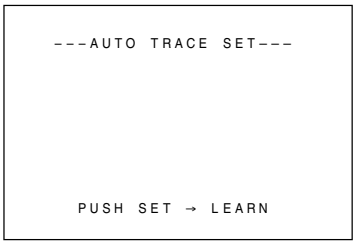
AUTO TRACE Setup

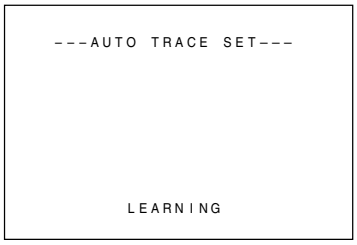
Use the AUTO TRACE screen to set the auto trace function, which stores and reproduces the actions of a manual camera operation (for 30 seconds).











1. Select the camera. (☞ RM-P2580 Instruction manual)
CAMERA button → Numeric key (camera number) → ENTER button.
The picture of the selected camera is output.

2. Display the SETUP menu on the camera.
(☞ P. 18, steps ***1*** to ***4***)
MENU button (3 sec.) → Select "CAMERA" with the PAN/TILT lever → SET button.
The camera moves to the home position.

3. Tilt the PAN/TILT lever up or down to move the cursor (>) to "AUTO PAN/PATROL TRACE" and press the SET button.
The AUTO PAN/PATROL/TRACE menu is displayed.

4. Move the cursor (>) to "AUTO TRACE SET" and press the SET button.
The AUTO TRACE SET screen is displayed.

5. Set the patrol start position.
Using the PAN/TILT lever and the ZOOM and FOCUS buttons, set the camera position at which the auto trace function is to be started.

6. Press the SET button (to start memorization of manual camera operations).
- Auto trace starts. Operate the camera using the PAN/TILT lever, and the ZOOM and FOCUS buttons.
- The Auto trace function can memorize camera operations for up to 30 seconds, during this period "LEARNING" is displayed in the screen.
- Storage finishes automatically after 30 seconds.
- Srform step ***7*** only when finishing the storage but before 30 seconds elapses.

7. Press the SET button to end the memorization of manual camera operations.
- Auto trace ends and the screen returns to the AUTO PAN/PATROL/TRACE menu.

8. Press the MENU button.
- The screen returns to the AUTO PAN/PATROL/TRACE menu.

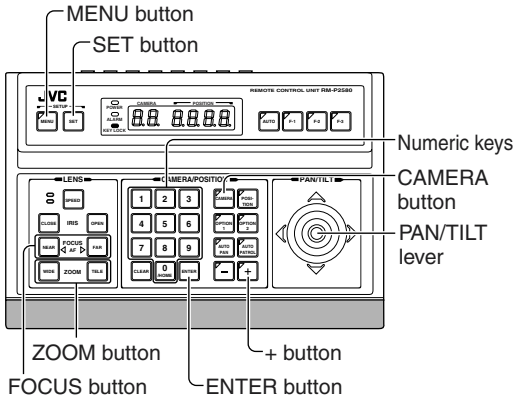
— MEMO
- The PAN/TILT position in the item "AUTO TRACE" function can be set and operated only between 0° and 90° (it cannot be set and operated between 90° and 180°) even when the item "FLIP" is set to DIGITAL.

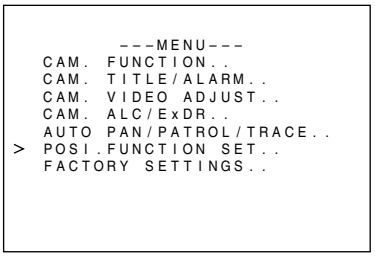
RM-P2580 units need to be configured to use replay movements stored by the Auto Trace function Use the AUTO PAN or AUTO TRACE buttons on the RM-P2580 to do this:

To let the camera execute reproduction of the auto trace operation, it is required to set the auto trace function in the AUTO PAN or AUTO TRACE button of the RM-P2580.
☞ P. 24, Items "RM. A. PAN KEY" and "RM. A. PATROL KEY".
When the button to which the auto trace function is set is pressed, the lamp in the button lights up and auto trace reproduction starts.
The auto trace reproduction will repeat continually with a pause of 30 seconds between each operation.
To end the auto trace reproduction, press the button to which the auto trace function is set again so that the lamp in the button turns off.

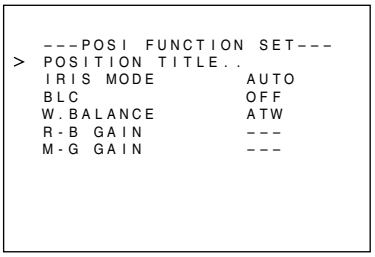
POSITION TITLE Setup

Use the POSITION TITLE screen to set the title of each camera position.
Each camera position can be given a title of up to 16 characters.

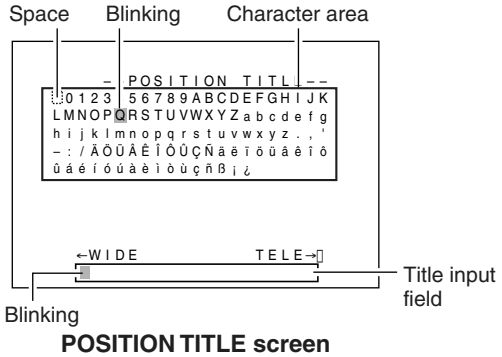




SETUP menu display on the camera



POSITION FUNCTION SET screen



POSITION TITLE screen

<Be sure to set the positions before proceeding to the position title setup.>

1. Select the camera. (☞ RM-P2580 Instruction manual)

CAMERA button → Numeric key (camera number) → ENTER button.
The picture of the selected camera is output.

2. Display the SETUP menu on the camera.

(☞ P. 18, steps ***1*** to ***4***)
MENU button (3 sec.) → Select "CAMERA" with the PAN/TILT lever → SET button.
The camera moves to the home position.

3. Tilt the PAN/TILT lever up or down to move the cursor (>) to "POSI. FUNCTION SET" and press the SET button.

The POSITION FUNCTION SET menu is displayed.

4. Ensure that the cursor (>) is located onto the item "POSITION TITLE" and press the SET button.

- The POSITION TITLE screen is displayed.
- The first characters in the character area and title input field blink to indicate that the system is ready for a title input.

5. Select a camera position. (☞ RM-P2580 Instruction manual)

POSITION button→Numeric key (position number)→ENTER button.

- The picture of the selected camera position is output.
- The next position can be selected simply by pressing the "+" button.

6. Tilt the PAN/TILT lever to select the first character of the title from the character area.

- The character being selected blinks.
- The selected character is displayed in the title input field.

7. Press the TELE button.

- The first character of the title is input, and the system gets ready for the input of the second character.
- If the WIDE button is pressed, the blinking position in the title input field moves to the left. Use this facility to correct previously input characters.

8. Repeat steps *5* to *7* for each title character.

- When the next position is selected, "DATA SAVED" is displayed for 3 seconds and the previous position title is stored in the memory.
- Complete the input of all position titles in this way.

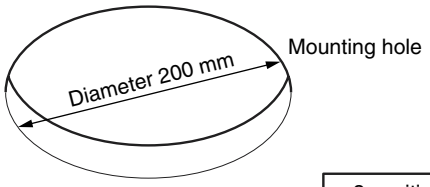
9. Press the MENU button.

The screen returns to the previous menu.

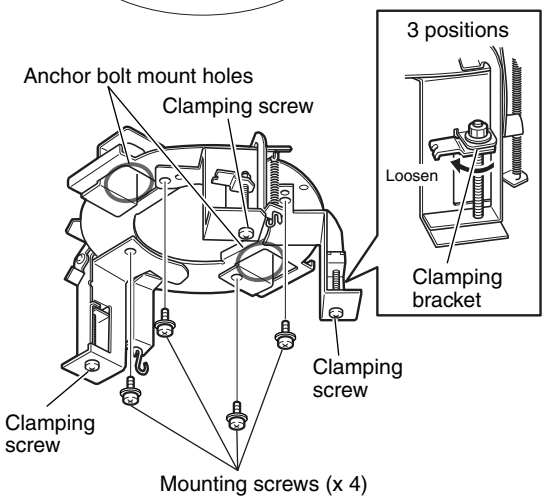
Other

Attaching a Flush Mounted Ceiling Bracket (Optional WB-S575)

The Flush Mounted Ceiling Bracket (optional WB-S575) allows the camera to be installed flush with the ceiling surface. In this case the ceiling material should have a thickness of between 5 mm and 31 mm.



1. Make a hole (diameter 200 mm) in the ceiling.

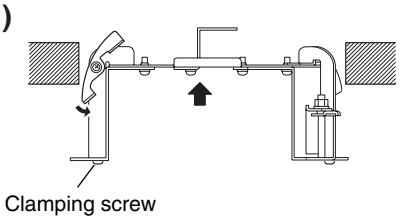


2. Prepare the Flush Mounted Ceiling Bracket.

- Fully loosen the clamping screws (by turning them anti-clockwise).
- Move the clamping brackets towards the inside as shown in the diagram.
- Remove the four mounting screws.

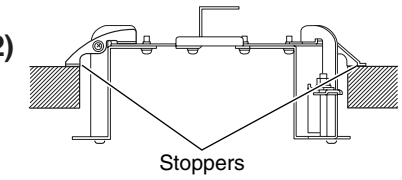
3. Clamp the Flush Mounted Ceiling Bracket.

(1)



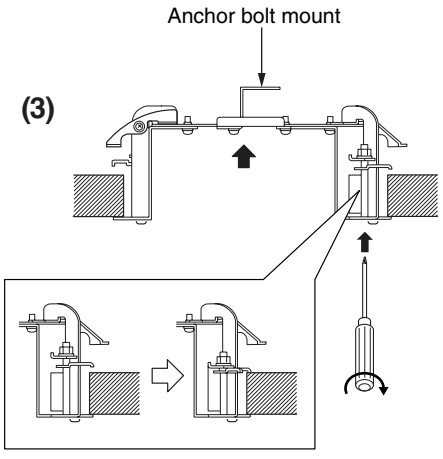
(1) Fit the Flush Mounted Ceiling Bracket into the hole in the ceiling.

(2)



(2) Ensure that the stoppers are pressing against the back of the ceiling plate.

(3)

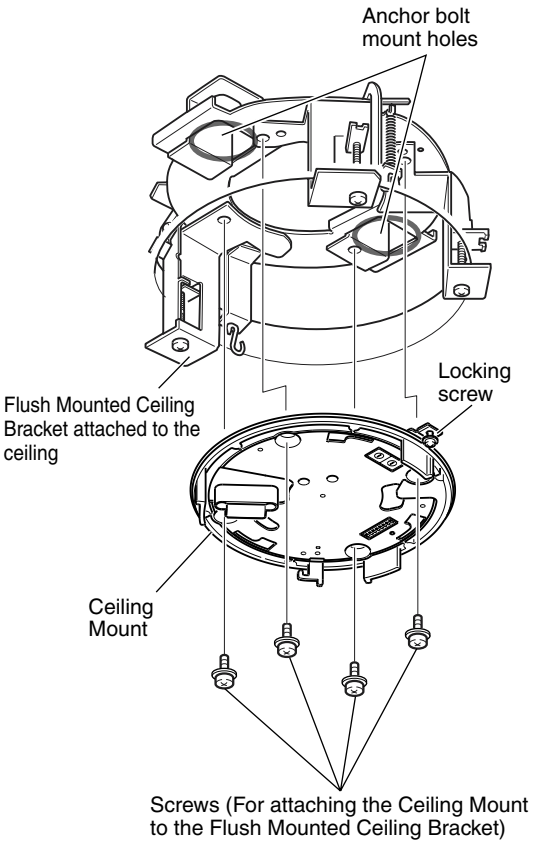


(3) Push the Flush Mounted Ceiling Bracket all the way up and tighten the three clamping screws (by turning them clockwise).

CAUTION

- Make sure that the clamping brackets grip the ceiling plate firmly.
- If the Flush Mounted Ceiling Bracket rattles after the clamping screws are tightened, loosen them fully and tighten them again.

If anchor bolts can be used, attach them using M8 - M10 (or 3/8 inch) nuts.



4. Connect cables to the Ceiling Mount.

☞ P. 14, “Connection Cables”

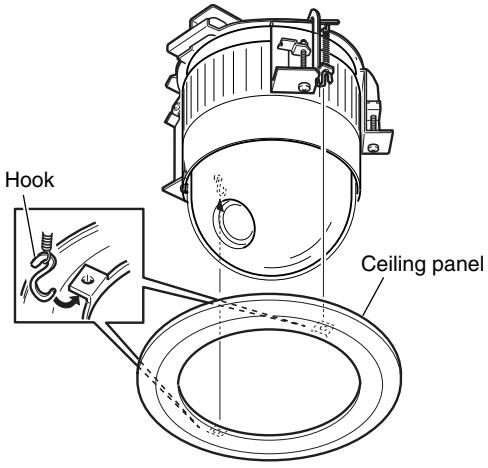
5. Attaching a safety wire to the Ceiling Mount.

Attach a safety wire to the Ceiling Mount and to the ceiling slab or channel to prevent the unit from dropping. First attach the safety wire to the Ceiling Mount by passing the wire through the safety wire hole.

☞ P. 16, step *1.* “Attaching a safety wire”.

6. Attach the Ceiling Mount to the Flush Mounted Ceiling Bracket.

- Attach the Ceiling Mount to the Flush Mounted Ceiling Bracket, taking care not to catch the connection cables.
- Please use the four screws provided (M4 x 12 mm). If the screws that have been removed in step *2.* above are used, the camera may not be installed properly and may fall.
- Attach so that the locking screw of the Ceiling Mount is positioned below the anchor bolt mounting hole of the Flush Mounted Ceiling Bracket.



7. Attach the camera to the Ceiling Mount.

☞ P. 16, “Attaching the Camera”

8. Attach the ceiling panel.

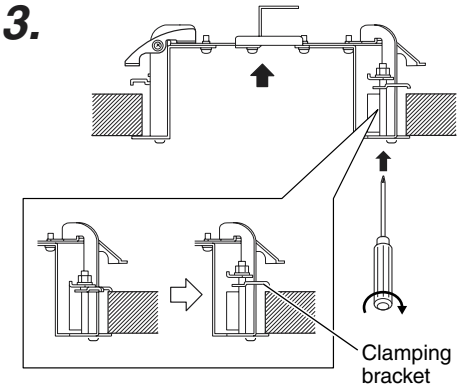
Attach the ceiling panel, provided with the Flush Mounted Ceiling Bracket, by attaching the two hooks, one an each side.

MEMO

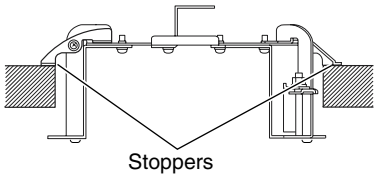
Both the Flush Mounted Ceiling Bracket and the safety wire should be insulated from the ceiling structure.
If the ceiling structure is made of a metallic material, inadequate insulation with the camera may produce noise in the video output.

Removing a Flush Mounted Ceiling Bracket (Optional WB-S575)

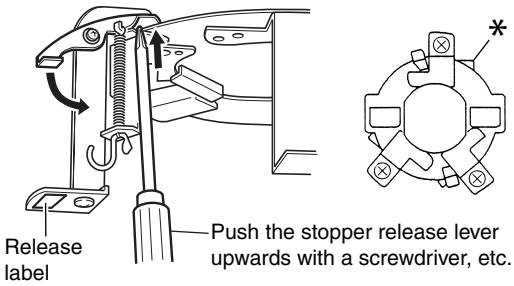
3.



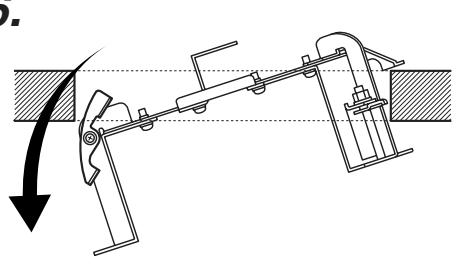
4.



5.



6.



<Check the release labels thoroughly before removal.>

1. Remove the ceiling panel.

Pull down the ceiling panel and disengage the two hooks either side.

2. Remove the camera.

Remove the camera from the Ceiling Mount by reversing the attaching procedure.

☞ P. 16, “Attaching the Camera”

3. Loosen the clamping screws of the Flush Mounted Ceiling Bracket.

- Loosen the three clamping screws (by turning them anti-clockwise).
- Make sure that the clamping brackets move inwards.

4. Lower the Flush Mounted Ceiling Bracket until the stoppers contact the ceiling plate.

5. Push up the stopper release lever, marked (*) in the figure, using a screwdriver.

- While holding the Flush Mounted Ceiling Bracket from below so that it does not drop, push up the one of the three stopper release levers marked (*)using a screwdriver or a similar tool.
- If the ceiling plate is thick and the stoppers cannot be released easily, push up two of the stopper release levers (including the one marked (*)).

6. Pull out the Flush Mounted Ceiling Bracket from the hole in the ceiling.

Tilt the Flush Mounted Ceiling Bracket and move it obliquely downwards to remove it.

Troubleshooting

Symptom	Cause (Information)	Remedy
No picture is displayed.	• Is there a problem in the power cable(s) connecting the camera to the power supply unit? (If the power cable(s) are too long or of an inadequate size, the correct voltage may not be supplied due to an increase in cable resistance.)	• Use cable(s) with low cable resistance and of the correct cable length. (Ensure that the voltage supplied to the terminal board is correct during camera operation, i.e. when the rated current is flowing through the camera.)
No power to the camera	• Are cables connected properly to the terminal board on the Ceiling Mount ?	• Connect the cables properly.
Power to the camera but it later turns off when the pan/tilt mechanism starts operation.	• Is there a problem with the power cable(s) connecting the camera to the power supply unit? (If the power cable(s) are too long or of an inadequate size, the correct voltage may not be supplied due to an increase in cable resistance during the pan/tilt operation.)	• Change power cable(s) to one(s) of lower resistance (i.e. thicker or shorter cable(s)). (☞ P. 14)
Video sync error occurs.	• When L/L is set, does the power supply frequency match the video frequency (50 Hz)? • Is thses interference to the power supply?	• Use a stable power supply with a matching frequency. • Prevent any penetration of noise into the power supply.

Specifications

■ Camera

Image pickup device	: 1/4 inch type, interline transfer CCD, 752(H) x 582(V) pixels.
Sync system	: Line Lock, Internal
Scanning frequencies	: Horizontal 15.625 kHz, Vertical 50 Hz
S/N	: 50 dB (typical), (AGC OFF, ENHANCE –5)
Minimum object illumination	: 6 lx (50% output, AGC 20 dB, WIDE end) 3 lx (25% output, AGC 20 dB, WIDE end)
Dynamic range	: 52 dB (ExDR mode)
White balance	: TTL auto tracking/Manual
Electronic shutter	: 1/50, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 sec.
Back light compensation	: Possible by selecting 4 photometry areas
Colour level adjustment	: Possible
Contour correction (ENHANCE)	: Both Horizontal and Vertical (level adjustable)

■ Lens

Zoom ratio	: Approx. x25
Focal distance	: 3.8 mm to 95 mm
Maximum aperture	: F1.6 (WIDE) to F3.7 (TELE)

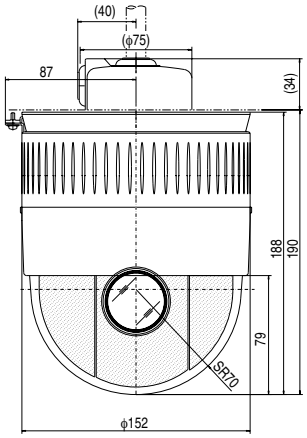
■ Pan/Tilt Mechanism

Panning range	: 360° endless revolution
Panning speed	: 1°/s to 300°/s
Tilting range	: 0° to 180° (Horizontal – Straight downwards – Horizontal)
Tilting speed	: 1°/s to 180°/s

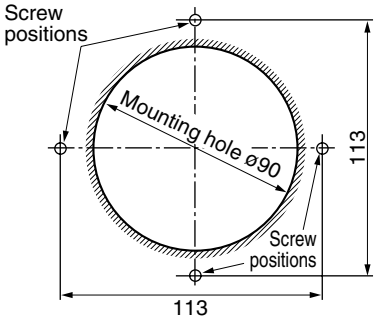
■ General

Power supply	: AC 24 V, 1.3 A
Number of preset positions	: 100 (Positions up to 64 are valid when the RM-P2580 remote control unit is used.)
Applicable remote control unit	: RM-P2580
Control signal connection terminal	: EIA RS-485 compliant, 9600 bit/sec.
Ambient temperatures	: –10°C to 50°C (operating), 0°C to 40°C (recommended)
Ambient humidity	: 35% to 90%RH (without condensation)
Mass	: 2.4 kg
Accessories	: Instructions ..... 2 Ceiling Mount ..... 1 Screw (M3 x 12 mm) ..... 1 Screw (M4 x 12 mm) ..... 4 Cable plate 1

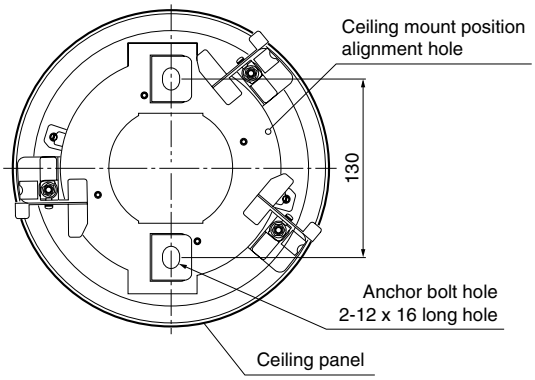
■ External dimensions [Unit: mm]



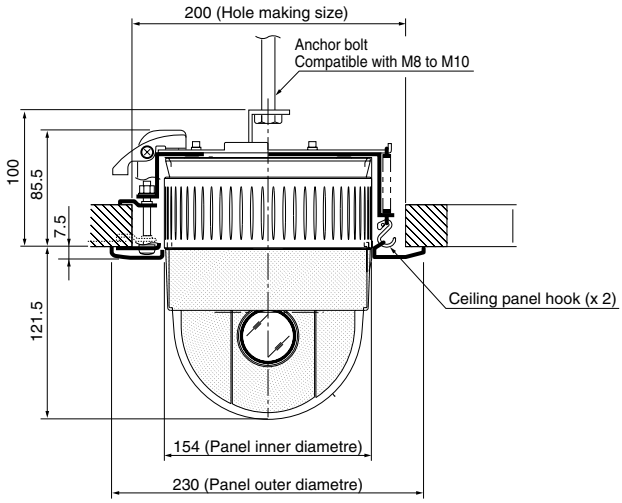
■ Ceiling Mount hole



■ WB-S575 (Flush Mounted Ceiling Bracket + Ceiling panel)

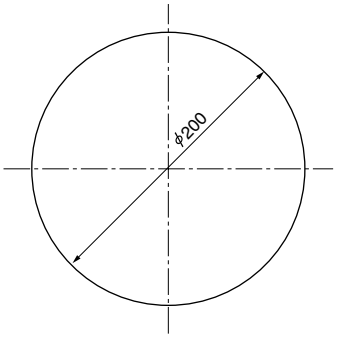


■ Dimensions in combination with the WB-S575



■ Ceiling Mount hole for WB-S575

Ceiling Mount hole
(Plate thickness: 5 mm to 31 mm)



** Design and specifications are subject to be changed without notice.*

TK-C655 DOME TYPE CAMERA

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